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ABSTRACT

This document was developed in response to California Senate Bill No. 885, "The Endangered Species Education Project," that called for a statewide program in which schools adopt a local endangered species, research past and current efforts to preserve the species' habitat, develop and implement an action plan to educate the community about the species, and submit the plan to the California Department of Education for review and awards. The eight sections in this resource guide include: (1) an introduction providing a rationale for specific preservation and environmental protection; (2) a discussion of California's vanishing wildlife; (3) California's endangered species education program competition guidelines: (4) steps on how to adopt a species; (5) a sample adoption plan; (6) lists of endangered, rare and threatened plants and animals by county; (7) lists of resource organizations and agencies to contact for further information, including lists of governmental agencies and state and local organizations involved in species preservation; and (8) an endangered species bibliography containing publications, audio-visual materials, and class activity sources. Six appendices contain endangered species information cards for students, general habitat descriptions, an Adopt-A-Species application form, a sample outline of five lessons for teaching about endangered species, a copy of Senate Bill No. 885, and an Endangered Species Education Program participation response form. (MDH)

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CALIFORNIA ENDANGERED SPECIES RESOURCE GUIDE

California Department of Education
California Department of Fish and Game
National Audubon Society

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CALIFORNIA
ENDANGERED SPECIES
RESOURCE GUIDE

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Thomas P. Sachse, Manager
Bill Andrews, Consultant
Science and Environmental Education Unit

California Department of Education
721 Capitol Mall
Sacramento, CA 95814

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CONTENTS

Page

PREFACE iv
Message from the California Department of Education describes the program goals

ACKNOWLEDGMENTS v
Individuals and agencies involved in creation of the program

INTRODUCTION 1
Habitat Preservation is Crucial for Species Preservation 1
Preservation and Education Go Hand in Hand 2
The California Endangered Species Education Program Brings Relevance to Science Education 2

VANISHING CALIFORNIA WILDLIFE 5
Extinction is Forever 5
Factors Contributing to Extinction and Endangerment 5
Legal Protection 7
Other Species at Risk 8
Habitat Protection is the Key to Survival 9
Why Should We Be Concerned? 10
Citizens Can Help Stop the Extinction Trend 11
What Can Schools Do? 11
References - Vanishing California Wildlife 12

CALIFORNIA ENDANGERED SPECIES COMPETITION GUIDELINES 13

HOW TO ADOPT A SPECIES 15

SAMPLE ADOPTION PLAN 23

CALIFORNIA'S FEDERALLY AND STATE-LISTED PLANTS AND ANIMALS BY COUNTY 27

RESOURCE ORGANIZATIONS AND AGENCIES 69

BIBLIOGRAPHY 102

APPENDIX

A. ENDANGERED SPECIES INFORMATION CARDS 107
B. GENERAL HABITAT DESCRIPTIONS 111
C. ADOPT-A-SPECIES APPLICATION FORM 115
BIOLOGICAL STATISTICS FORM (BIOSTAT) 116
D. SAMPLE LESSON PLAN 119
E. SENATE BILL NO. SB 885 125
F. PARTICIPANT INFORMATION FORM 127

PREFACE

The *California Endangered Species Resource Guide* represents the combined efforts of several state agencies and environmental organizations under the direction of the California Department of Education. It offers teachers a resource they can use with their students to study and protect the state's endangered species.

The development of this document is in response to Senate Bill No. 885, "The Endangered Species Education Project," introduced by Senator Gary K. Hart of Santa Barbara. The goals of this project are to encourage schools to participate in a statewide program in which schools:

- Adopt a local endangered species and research the threats to its habitat;
- Research past and current efforts to preserve the habitat of the species;
- Develop a plan to educate the community about the species and its habitat;
- Implement an action plan in cooperation with local agencies and community resources; and
- Submit their plan and project results to the California Department of Education for review by student teams for state recognition of their efforts.

This resource guide provides lists of endangered, rare and threatened plants and animals by county as well as lists of governmental agencies and state and local organizations involved in species preservation. In addition, it offers avenues for school children to make valuable contributions to species preservation by adopting a local endangered species and developing an action plan to save its habitat.

SALLY MENTOR
Deputy Superintendent
Curriculum and Instructional Leadership

WALTER DENHAM
Manager
Mathematics Unit

FRED TEMPES
Associate Superintendent
Curriculum, Instruction,
and Assessment Division

THOMAS P. SACHSE
Manager
Science, and Environmental
Education Unit

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Department of Fish and Game	Ken Berg, Coordinator Endangered Plant Program
	Carla DeCrona, Program Assistant Endangered Plant Program
	Celeste Cushman, Assistant Coordinator California Endangered Species Act
	Rhonda Reed Natural Heritage Supervisor
	Susan Bearden Thomas, artist
Department of Forestry and Fire Protection	Kay Antunez, State Coordinator Project Learning Tree
Department of Parks and Recreation	Donna Pozzi, Supervisor Interpretive Programs Section
Senate Education Committee chaired by Senator Gary K. Hart	Karen Lowrey, Consultant
National Audubon Society	Beth Huning, Director, Richardson Bay Audubon Center
	Julia Hess, Writer
	Meryl Sundove, Education Coordinator
	Karen Wickler, Contest Coordinator
	Lynn Tennefoss, Layout

Leadership and guidance for this project were provided by:

Department of Education	Bill Andrews, Consultant Science and Environmental Education Unit
	Betsy Olson, Resource Teacher Elk Grove Unified School District
	Thomas P. Sachse, Manager Science and Environmental Education Unit
	Sal Villasenor, Legislative Affairs Governmental Affairs Office

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INTRODUCTION

How many of us have driven past marshes of cattails or sedges without a glance or a thought to the teeming of life in such habitats? Thoreau's writings about his time at Walden Pond in Massachusetts gives us insight into the richness of the experience. To spend a day, an hour, or even a few minutes with our full attention on the plants and animals living in a marsh or any other habitat rich with life can enhance our lives. Identifying common species such as red-winged blackbirds or pickleweed brings joy to many individuals, and many people gain satisfaction knowing an area harbors the more secretive species, such as the California black rail.

By understanding the fragility of these ecosystems, especially those too delicate to step upon, we begin to understand that our attitudes and actions affect the health of many habitats throughout the state and around the world. In a similar way, the evolution of our planet, the great numbers of living things depending upon it, and the variety of life forms inspire awe in students of all ages. This diversity of life awakens wonder and curiosity in children's minds, especially the questions, "Why?" "How come?" and "What is it?"

Few places in the nation or in the world host such a great a diversity of life in a relatively small geographical area as California. However, during the past century of California's statehood, human population demands to develop California's land, waterways, and coast have increased the number and rate of native animals and plants threatened with extinction. California currently has more endangered and threatened species than any other state in the continental United States. While exotic or charismatic species such as the California condor, the San Joaquin Kit Fox, and the northern spotted owl are highly publicized and often controversial, lesser known California native species are in need of immediate attention to protect the diversity and stability of our state's natural heritage.

Questions surface when we learn of the increasing rate of species extinction and endangerment. "Why is it endangered?" "How did it became extinct?" While extinction is a part of the natural process of evolution, human beings have a direct role in the endangerment and extinction of species at a much higher rate than naturally occurs. People, individually and collectively, can also play a crucial role in protecting native species by preserving habitats. The next question is "What can we do about it?"

HABITAT PRESERVATION IS CRUCIAL FOR SPECIES PRESERVATION

Several organizations and agencies are taking responsibility for protecting endangered species through habitat restoration and protection. Throughout California, land owners are taking the responsibility for providing habitats for wildlife: some by choice and some in response to legislation. Consider the farmer setting aside fenced lands for endangered plants; duck clubs purchasing large tracts of land for waterfowl; and developers restoring wildlands through mitigation. The Nature

"We need the tonic of wildness —
to wade sometimes in marshes
where the bittern and the meadow-hen lurk,
and hear the booming of the snipe;
to smell the whispering sedge where only some
wilder and more solitary fowl builds her nest,
and the mink crawls with its belly close to the ground.
At the same time that we are earnest to explore
and learn all things,
we require that all things be mysterious and unexplorable...
We need to witness our own limits transgressed,
and some life pasturing freely
where we never wander."

– Henry David Thoreau, ***Walden***

Conservancy reports the acquisition of 325,730 acres, including 36 preserves in California. While the motivation may vary, the intent is clear: setting aside land as wildlife preserves is essential for the protection of biological diversity in the state.

Listing a plant or animal as a rare, threatened or endangered species is only a beginning. Citizens, schools, and community groups can take a stand to preserve vital habitats for all species. All species live in their own web of life supports. This web of life is resilient to outside influences, but only to a point before a strand is broken. If several of these life lines are broken, the plant or animal cannot survive. To take personal responsibility for the protection of habitats, we need to foster awareness and respect for all living things, understand basic ecological concepts, including our role in the environment, and sustain responsible actions toward the environment.

PRESERVATION AND EDUCATION GO HAND IN HAND

Our attitudes and actions toward the environment need to reflect respect for the laws protecting native species. Citizens should expect, indeed insist on, accountability from all sectors of the populace and government. Children, with proper guidance and accurate information, can be powerful advocates for all forms of life. The intent of Senate Bill No. 885, "The Endangered Species Education Project," is to empower students to take active roles in protecting local habitats.

The California Department of Education presents this resource guide to teachers and encourages schools to take action by informing the public and preserving threatened and endangered species' habitats. The purpose of this resource guide is threefold:

- to clarify the intent of legislation regarding endangered species;
- to provide guidelines for schools to adopt a species through the Endangered Species Education Project; and
- to list agencies and organizations with personnel, land, or materials to assist schools in adopting their species.

THE CALIFORNIA ENDANGERED SPECIES EDUCATION PROGRAM BRINGS RELEVANCE TO SCIENCE

The *Science Framework for California Public Schools, Kindergarten Through Grade Twelve* (1990) stresses providing depth of study and encourages interdisciplinary study through active learning. Adopting a local endangered plant or animal can provide opportunities for the in-depth study of an organism in the context of its natural community and the effects of humans. A unit on endangered species might focus on the concepts of the science framework from Section C, "Ecosystems" of Chapter 5 on the life sciences. The following statement from this section describes the study of ecosystems:

> "The study of ecosystems has a dual purpose: (1) to achieve a basic understanding of natural ecosystems and how they work; and (2) to apply this understanding to making practical and ethical decisions

about ecosystems, often referred to as the science of conservation. Conservation of resources does not assume that ecosystems do not change; the object is to ensure that human intervention in ecosystems does not change them so rapidly or radically that their species and ecological interactions are destroyed. Our children face a global crisis in conservation of natural resources. We are only beginning to understand its depth and ramifications for the earth's food supply, atmosphere, water cycle, and biological diversity. Communicating this awareness to students involves both the fundamental aspects of ecological theory and the applied theory of conservation biology in both ethical and practical aspects."

The organizing questions for science content provide a logical sequence to the study of endangered species within the larger context of ecosystems:

C-1 What are ecosystems, and how do organisms interact in ecosystems?
C-2 How does energy flow within an ecosystem?
C-3 How do ecosystems change?
C-4 What are the responsibilities of humans toward ecosystems?

The sample lesson plan in the appendix of this guide will provide an outline and learning activities that will address the concept of ecosystems and endangered species.

The key concepts addressing each of the above organizing questions may be found on pages 136 - 142 of the *Science Framework*. The concepts are written for kindergarten through third grade, third through sixth grade, sixth through ninth grade and ninth through twelfth grade. Each concept is written from the perspective of certain science themes.

Incorporating recurring themes, such as "Systems and Interactions," "Patterns of Change," and "Conservation," (described in the *Science Framework*) into the endangered species program can reinforce science concepts and the basic principles of science. These themes, interwoven into the fabric of the project, can provide the overview, or big picture, of the school's effort to adopt and endangered plant or animal. As students assemble the bits and pieces of information about their adopted species, using the themes may help them assimilate their data into logical, cohesive ideas, laying the groundwork for creating and developing their school's action plan.

11

VANISHING CALIFORNIA WILDLIFE

EXTINCTION IS FOREVER

Extinction is a natural evolutionary process that occurs over thousands of years. Unfortunately, over the last few hundred years human influences have upset the natural balance and caused the extinction rate to accelerate dramatically. During the past 600 million years geologic data indicate the rate of extinction to have been about one species per year. However, current field data show that our world is losing **one to three species every day.** Some scientists predict that in the next decade **one species will disappear every hour** — and when a species becomes extinct, it is gone forever.

Presently, there are several hundred species in California that are threatened with extinction. These plants and animals that face serious danger of becoming extinct throughout their range are designated as "endangered species."

FACTORS CONTRIBUTING TO EXTINCTION AND ENDANGERMENT

Many reasons exist for the accelerated extinction of plants and animals. Often multiple factors contribute to the decline of a species. In California, habitat destruction is the primary cause. The needs of 30 million California residents place tremendous pressure on our society to convert wild lands for human uses. In addition, a contributing factor causing some of California's plants and animals to be placed on the endangered species list is the introduction of non-native species into native habitats. Other causes of species decline include commercial exploitation, predator control, global environmental problems, and pesticide usage.

Habitat Destruction and Population Pressures

Habitat losses result primarily from the increasing population, and the demands this places on natural resources. Conversion of wildlife habitat for human use in California is intensified due to rapidly increasing population over the past forty years due to immigration and California's rapidly increasing population. Poorly planned development, conversion of natural habitats to agriculture, overgrazing and trampling by livestock, the use of off-road vehicles in natural habitats, and other human disturbances all contribute to the fragmentation and loss of habitats that are essential for wild plants and animals to survive.

- 90% of California's wetlands have been drained, diked, or filled for urban or agricultural use.
- Urban sprawl due to lack of community planning has consumed large tracts of natural habitat and diverted water to urban and agricultural areas at the expense of wildlife.

"The beauty and genius of a work of art may be reconceived, though its first material expression be destroyed; a vanished harmony may yet again inspire the composer; but when the last individual of a race of living things breathes no more, another heaven and another earth must pass before such a one can be again."

-William Beebe (1906)

- Native oak and riparian habitats which are naturally rich in wildlife are rapidly being eliminated by channelization of rivers, cutting of trees, and trampling of grasses for urban and agricultural uses.

- Rapidly increasing population has created a demand for recreational opportunities which spill into sensitive wildlife areas such as sand dunes and deserts.

Introduced (Exotic) Species

When a species is introduced to a new area, it may prey upon or compete with native species (those that naturally occur in the area) for water, sunlight, food, shelter, and space. Non-native species may invade natural habitats or be introduced into habitats that have been disturbed by humans, ultimately displacing native species. For example:

- A species of iceplant *(Carpobrotus aequilaterus)* was accidentally introduced on the beaches of Monterey. Now this exotic species is out-competing many native plant species such as the endangered Menzies' wallflower and the slender-flowered gilia.

- A fish called the largemouth bass was introduced into the Owens River drainage (located on the eastern side of the Sierra). They prey on the river's native Owens pupfish, seriously threatening their survival as a species.

Commercial Exploitation and Predator Control

Commercial exploitation and the control of predators have also caused the decline of native plants and animals.

- For years the beautiful western lily grew in abundance along the Oregon and California coast. These lilies were so adored that people wanted them in their gardens. The bulbs were commercially exploited — collected and sold for profit. Between 1898 and World War II, populations of the western lily had drastically declined, leaving only two of the original fifteen populations in California. Because of this intense commercial exploitation and much habitat destruction, the western lily is an endangered species.

- Hundreds of years ago, one could find sea otters living in a range from Alaska to Baja California. From 1741 to 1911, this species was commercially harvested for their luxurious fur so extensively that it faced the serious threat of extinction. Fortunately, laws protecting the otter enabled them to increase in number to about 2100 animals today in isolated populations.

- In California's past, control of predators led to the extinction of such animals as the grizzly bear. Because of the grizzly's reputation as a vicious predator, it was often killed to protect livestock and people. Although the grizzly is California's official state mammal, it was extirpated in the state of California in the 1920's.

Pesticides and Poisoning

The use of pesticides such as DDT has been an important cause of the endangerment of several predator bird species such as the bald eagle and the peregrine falcon. Pesticides accumulate in the food chain (biomagnification) and cause thinning of eggshells. This is often detrimental to the reproductive process of these raptors because most of these thin-shelled eggs never hatch or are crushed by nesting birds. In 1972, the United States issued a ban on the use of DDT, and although its use in other countries continues to pose a serious threat to numerous species, especially migratory waterfowl, recovery programs for the eagle and the falcon have been promising. Hopefully continued protection and public support will bring their populations back to their historic numbers. The use of legal pesticides, however, continues to pose problems for California's plants and animals.

- Accidental poisoning contributed to the drastic decline of the California condor. One type of poisoning that the condor suffered was lead poisoning. The condor ingested bullets while eating animals that had been shot. Death also occurred when they ate poisoned carcasses put out by farmers to kill coyotes and mountain lions. By 1985 only nine California condors were left, and out of these there was only one breeding pair. This decline inspired intense coordinated efforts by the California Department of Fish and Game, U.S. Fish and Wildlife Service, the San Diego Wild Animal Park, the Los Angeles Zoo, the National Audubon Society, the U.S. Forest Service, the Bureau of Land Management, and The Nature Conservancy.

  These agencies and organizations worked to ban the use of poisons that kill animals, to close sensitive areas to firearms, to establish a Condor Research Center and captive breeding programs, and to acquire natural habitat for future reintroductions into the wild. In 1992, a few young condors from this breeding program were the first to be reintroduced into the wild. These efforts give us hope that the condor will make a comeback and that generations to come will see condors returned to their native habitat in the wild.

LEGAL PROTECTION

The U.S. Endangered Species Act was established in 1973 to prevent extinction and to grant the federal government the authority to protect certain species of plants and animals along with their habitats. The act protects listed species from harm or "take" which is broadly defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct." An activity is defined as "take" even if it is unintentional or accidental. Violation of the Endangered Species Act places the individual or company in jeopardy for both civil and criminal penalties which may include fines and imprisonment. California has three primary laws that protect our natural heritage: the California Endangered Species Act (CESA) of 1984, modeled after the federal law, the California Environmental Quality Act (CEQA) of 1970, and the Native Plant Protection Act (NPPA) of 1977.

These state and federal laws work primarily by bringing attention to endangered species through the official listing process, by publicizing their plight, and by encouraging public and private landowners to take steps to protect the species' habitats. Unfortunately, due to a lack of government funding, the listing process is backlogged and species can become extinct while they wait to get added to the official list. Even so, getting a species officially listed is only the first step towards getting it protected. Ultimately, the species' habitat must be protected and actions that harm the species must be controlled. Public support is needed to encourage landowners and public officials to make the decisions necessary to affect these changes.

- ***California Dept of Fish and Game***
  and
- ***California Fish and Game Commission***
  1416 Ninth Street
  Sacramento, CA 95814

Definitions for designating species most in need of protection on a statewide level were developed as part of CESA and NPPA. State-listed plants and animals are those that are designated by the California Fish and Game Commission as endangered, threatened or rare. As of June 1992, California had 213 State-listed plants, and 73 State-listed animals in the following classifications.

- An **ENDANGERED** species is one in serious danger of becoming extinct throughout all or a significant portion of its range unless special protective measures are taken.
- A **THREATENED** species is one that, although not presently threatened with extinction, is likely to become an endangered species in the near future unless special protective measures are taken.
- A **RARE** species (this status is only used for plants) is one that has such a small population throughout its range that it could become endangered if its current environment is further harmed.

The U.S. Fish and Wildlife Service follows a similar procedure for listing plants and animals nation-wide under the Federal Endangered Species Act. As of June 1992, 43 Federally-listed plants and 74 Federally-listed animals occur in California, most of which are also on the State list.

OTHER SPECIES AT RISK

The State maintains an informal watch list of "species of special concern" similar to the federal candidate species. According to the California Department of Fish and Game (CDFG), "a species of special concern has no legal status, thus there is no special requirement, such as the law provides for endangered species, to consider potential adverse impacts of a project upon the species and its habitat." However, under guidelines of CEQA a species of special concern may be considered threatened or endangered depending on local circumstances.

Over 2,000 species of plants and animals, including "species of special concern," are tracked in the CDFG's California Natural Diversity Data Base (CNDDB). Organizations such as the California Native Plant Society and The Nature Conservancy supply much of the data for the CNDDB through field survey forms filled out while conducting studies on

particular species of interest. Approximately 600 native animals and 1600 native plants are currently inventoried by the CNDDB. Among those tracked are:

- all State and Federally listed species and those that are being considered for listing;
- species that are found in fewer than 100 places on earth; and
- species or communities (special habitat areas) recommended by conservationists or scientists.

The state plant and animal lists are amended through a petition process by which the CDFG staff or interested members of the public submit a petition to the California Fish and Game Commission requesting to add, delete or change the status of species on the list. The petition must include sufficient information on the species' abundance, distribution, habitat requirements, threats, and suggested management. Only then will it be accepted for consideration by the California Fish and Game Commission. If the petition meets these standards, the petitioned species can be designated a candidate by the Fish and Game Commission. As a candidate, it receives generally the same legal protection as a fully listed species.

Following the designation of a species as a candidate for state listing, there is a one year review period during which the available information on the species is thoroughly examined by the CDFG. The CDFG then prepares a formal report to the Commission recommending the acceptance or rejection of the listing proposal. Once the Commission announces its intention to adopt the proposal, the public has 45 days to comment on this action. Following this comment period, the Commission makes a final decision on the petition in question.

Once a species is listed, the goal is to improve its status in order to assure its long-term survival. If preservation measures are successful, a species can be removed from the list altogether.

HABITAT PROTECTION IS THE KEY TO SURVIVAL

Natural habitat conservation provides the basis for long term protection. All species are components of natural communities of interacting organisms. Plants, animals, fungi, bacteria, and other microorganisms coexist in any given area with localized environmental conditions such as climate, soils, and geology. This abiotic environment is known as the "habitat." A habitat plus its component community of species constitutes an ecosystem. Communities, habitats, and ecosystems form the biosphere of all living species. To insure long-term sustainability of populations of all species, rare or otherwise, the umbrella of the ecosystem in which the species are embedded must be protected.

Sustaining the integrity of an endangered species' habitat, community, and ecosystem is the goal of the legislation designed to protect them. Specific means to identify and protect habitats, communities, and ecosys-

tems themselves are not explicitly discussed in the legislation. Fortunately, the California Department of Fish and Game has developed a classification for terrestrial and aquatic natural communities and uses this classification to identify ecosystems. The better we understand the ecosystems in which rare species occur, the more help society can offer for species preservation. Lists, keys to identification, and descriptions of these natural communities are available from the Natural Heritage Division of the Department of Fish and Game. A simplified list of these communities is provided in this document.

WHY SHOULD WE BE CONCERNED?

"Destroying a species before learning its worth is like burning a library before reading the books."

- Author Unknown

Why should Californians be concerned about our diminishing wildlife? Why should we save our rare and endangered species, and preserve our natural heritage? Some commonly held values are described below.

Aesthetic Values California's wildlife contributes a natural beauty to the earth. The aesthetic value of our unique natural heritage is something that most Californians have appreciated on family vacations, Sunday drives, or strolls through natural areas.

Ecological Values All species (including humans) rely on other species and the land, air, and water around them to survive. They are all a part of the ecosystem. The survival and well-being of these species serve as indicators as to the overall health and condition of the environment. These indicators help us to determine the need for protective measures for certain associated species. The ecologic value and biological diversity of our wildlife is important to the long-term health of our environment.

Economic Values Many of California's plants hold economic value. Meadowfoam, plants found exclusively in vernal pools, contain an oil with properties similar to sperm whale oil. Over 98 percent of California's vernal pools have been destroyed. If current vernal pool protection measures are successful, the oil derived from this plant could someday replace whale oil for industrial use. Wildlife recreation also holds economic value. In 1985, Californians spent 1.7 billion dollars on wildlife-associated recreation such as photography, bird watching, hunting, fishing, and backpacking.

Educational Values Education is a valuable tool humankind has to offer our world. By studying plant and animal species, especially how they survive in their environment, their habitat requirements, and their inter-dependencies in the ecosystem, we begin to understand the world around us. By teaching our youth the values wildlife have to offer, we are assuring the health and continued existence of future natural environments for wildlife and humans alike. We hope that as education progresses, we will learn the best methods of preserving our natural resources, and how to replenish what we've already depleted.

Ethical Values All species have the right to exist. While people have varying and often conflicting morals, humans, as part of the ecosystem, have the responsibility to protect the quality of air, water, and

soil, thereby protecting the quality of habitats for native species and, ultimately, species diversity.

Medicinal Values The value of plants to medicine cannot be overemphasized. Today, over half of all of our medical prescriptions contain compounds derived from plants. Only a fraction of the world's plants have been studied, and they already contribute to products such as analgesics, antibiotics, drugs for heart disease, anti-cancer agents, enzymes, hormones, diuretics, anti-parasitic compounds, ulcer cures, dentifrices, laxatives and anticoagulants. Further research promises future discoveries of the medicinal values our natural resources have to offer.

Recreational Values Californians enjoy the recreational opportunities our natural resources have given us, such as skiing, boating, hiking, hunting, fishing, camping, nature photography and nature study.

CITIZENS CAN HELP REVERSE THE EXTINCTION TREND

Citizen involvement is essential to stop this extinction trend. Public support is needed to improve federal and state endangered species laws, to increase funding to government agencies and private organizations working on endangered species, and to encourage public officials to make decisions that help protect endangered species' habitats.

Citizen involvement is the key to making the existing federal and state endangered species laws work effectively because most land uses affecting endangered species habitats are approved by local jurisdictions. In most cases involving private land, the laws do not require that habitat for the endangered species be protected, but only that the local agency making the decision consider recommendations from government scientists. Consequently, the fate of many endangered species lies within the discretion of public officials.

Concerned citizens can educate city councils, county boards of supervisors, and other local and statewide decision-makers about the plight of endangered species and encourage these public officials to make decisions that will protect them. Strong public support can ensure that our society has the political resolve to protect our endangered species as our state continues to grow.

WHAT CAN SCHOOLS DO?

Through the official listing process, habitat protection, habitat management, public education, and public support, Californians can contribute to the preservation of our state's unique natural diversity. By becoming involved with the *California Endangered Species Education Program* your school can help to educate the students and citizens of your community about the threats to California's wildlife, and the importance of preserving it. Through their public contact with local decision makers, students can realize they can have a direct influence on the fate of California native species.

REFERENCES–VANISHING CALIFORNIA WILDLIFE

Cochrane, S.A. 1986. *Endangered Plants and California State Laws.* Proceedings of Conservation and Management of Rare and Endangered Plants, Sacramento, Nov. 1986. California Native Plant Society. 630 pp.

Designated Endangered, Threatened or Rare Plants. March 1990." California Department of Fish and Game, Natural Heritage Division. 5 pp.

Federally Designated Plants in California. March 1990." California Department of Fish and Game, Natural Heritage Division.

Fish and Game Code of California. 1989. Sections 1900-1926, and 2050-2097. Gould Publications, Binghamton, New York. 644 pp.

Jameson, E. W. Jr.; Peeters, J. J. 1988. *California Mammals.* University of California Press, Berkeley, California. 403 pp.

Lowe, D. W.; Matthews, J .R.; and Moseley, C .J. (eds.). 1990. *World Wildlife Fund Guide to Endangered Species in North America. Vol. I & II.* Beacham Publishing, Inc., Washington, DC. 1180 pp.

Miller, D. J. 1974 *The Sea Otter* ***Enhydra lutreis*** *Its Life History. Taxonomic Status. and Some Ecological Relationships.* Marine Resources Leaflet No. 7. California Department of Fish and Game. 13 pp.

Natural Diversity Data Base Program Description. California Department of Fish and Game, Natural Heritage Division.

Remy, M. H.; Thomas, T. A.; Duggan, S. E.; and Moose, J. G. 1990. *Guide to the California Environmental Quality Act (CEQA)."* Solano Press Books, Point Arena, California. 479 pp.

Science Framework for California Public Schools Kindergarten through Grade Twelve. Preliminary Edition. CDE, 1990.

State and Federal Endangered and Threatened Animals of California. July 1990. California Department of Fish and Game, Natural Heritage Division. 5 pp.

Steinhart, P.; Bowman, R. I. 1990. *California's Wild Heritage. Threatened and Endangered Animals in the Golden State.* California Department of Fish and Game, California Academy of Sciences, Sierra Club Books. Craftsman Press, Seattle, Washington. 108 pp.

CALIFORNIA ENDANGERED SPECIES EDUCATION PROGRAM COMPETITION GUIDELINES

An exciting opportunity awaits elementary and middle grades schools in the spring. The California State Superintendent of Public Instruction, through Senate Bill No. 885, "The Endangered Species Education Project," is sponsoring a statewide competition for schools to adopt local endangered species of plants and animals. Schools choosing to participate in the competition will research their adopted species and prepare proposals for saving the habitat of their adopted species. These proposals will include action plans to educate the local community about the threats to the habitat and will report on how students work in cooperation with local organizations, groups, and governmental agencies to improve and protect the habitat for their adopted species.

HOW TO ENTER THE COMPETITION

To enter your school in the competition, complete and send to the address below:

* **Biological Statistics Data Sheet** (see Biostat in Appendix C) - limited to one page;

* **Adopt-A-Species Application** (use the format presented in Appendix C) - limited to nine pages; and

* **Supporting student materials** (such as photographs, artwork, flyers) - limited to ten pages.

The total number of pages submitted should not exceed 20 letter-size (8 1/2" by 11") pages. Please limit the typewritten narrative response for each question on the Adopt-A-Species Application Form to one page or less. Supporting student work is encouraged, but should be limited to ten pages.

In order to organize the applications prior to the student review, all applications must be in the office of the Science & Environmental Education Unit in Sacramento by April 4. Entries which are mailed must be postmarked April 1 or earlier. Entries may be delivered by hand or through an express mail service. However, facsimile (FAX) copies **will not** be accepted.

Postmark your completed endangered species project report by **April 1**, or deliver by April 4, to:

Endangered Species Education Project
Science & Environmental Education Unit
721 Capitol Mall, P.O. Box 944272
Sacramento, CA 94244-2720
(916) 657-5374

THE COMPETITION REVIEW PROCESS

Interested schools are encouraged to submit their proposals to the Department of Education for review by teams of students. Each school submitting a plan will receive a certificate of recognition. Schools submitting projects deemed "exemplary" by the teams of student reviewers will receive certificates of commendation. Students and teacher representatives from schools with exemplary projects will be invited to serve on the review teams to evaluate proposals the following year. The review teams from elementary and/or middle grade schools will be invited to meet in Sacramento, present their projects to members of the legislature, and evaluate new proposals.

Proposals will be reviewed, rated, and ranked based on the following criteria:

- √ Student involvement and School Wide Cooperative Efforts (20 %)
- √ Depth of Scientific Research (20%)
- √ Depth of Historical Research (15%)
- √ School and Community Partnerships (15%)
- √ Innovation and Creativity in Solving Problems (15%)
- √ Clarity and Attractiveness of the Application (15%)

NOTIFICATION OF COMPETITION RESULTS

Schools entering the competition will be notified of the results by June 10. Every school will receive a certificate of participation signed by the California State Superintendent of Public Instruction. These projects will be the subject of publicity in various professional publications for educators and in press releases. Application and materials submitted to the contest will not be returned unless special arrangements are made.

HOW TO ADOPT A SPECIES

In the following text the italicized print refers to activities conducted at Albert Joe Hickman Elementary School in the San Diego City School District, model Adopt A Species Program. The students of this school elected to adopt the San Diego mesa mint, an endangered plant near their school. Although they adopted the mint, they found themselves working to protect the vernal pools in which it exclusively lives. The narrative illustrates how students, staff, and parents of the students became involved with preserving the habitat of their adopted species.

"Wait until you're older." How many times a day do elementary and middle school students hear this? Often we don't give children enough credit for the changes they can make in our world right now. We tend to equate age with competence, and children fall at the low end in both. When it comes to protecting our environment and our endangered species, however, no age is too young to become involved.

Your students possess the energy, the motivation, and the ability to make their needs known. Surprisingly, most adults will listen more carefully to children than they will to other adults.

As a teacher, you can tap these valuable resources, channeling your students' energy toward positive change in our natural world. Most likely you have witnessed cases where even the shyest, most withdrawn or the angriest, most rebellious students can blossom when given a chance to be responsible for something. Imagine how far these students could go if they knew that they could help protect a threatened plant or animal that belongs to everyone.

When you adopt your species, be prepared that you may never see it in the wild. By definition they are rare and, therefore, generally uncommon. Because they are rare, only qualified individuals are legally permitted to handle or interfere with them. This protects the species against accidental deaths. Remember that the key to ensuring the survival of endangered (and all) species is to protect the places where they live - their habitat.

Carrying capacity is an important ecological concept to teach all people, especially as it relates to endangered species. A habitat can only support a limited number of species. Consequently, introduction of individuals from captive breeding programs can only be successful if there are habitat areas where the species number are below the carrying capacity. But the good news is that carrying capacity can be protected and sometimes enhanced. In the past, many habitats for unique species have been lost because the landowner or local government had no idea there was anything special about that habitat. Community education could have helped protect these special places and prevented the need to list the species. Adequate habitat is the key to species survival, and education is the tool that will duplicate those keys.

Adopting an endangered species won't be overly difficult for you and your class. It takes work, but your students will take care of most of it. As their teacher, you will act as the liaison between your students and community officials.

Students and teachers at the Albert Joe Hickman Elementary School in San Diego have shown that they can make an impact in protecting their endangered species. The California Department of Education identified their effort and their ideas as exemplary; their school serves as a model program for the California Endangered Species Education Program. We will refer to Hickman Elementary throughout the text as we explore how you can implement this project into your science, social studies, reading, and art classes.

STEP ONE: CHOOSE YOUR SPECIES

Discuss with the students the many endangered plant and animal species of California. Students may research local endangered plants and animals through suggested resources provided in the bibliography of this guide. You might also invite a local expert to speak to your class or school. Have your students decide upon criteria, nominate and select a species found in your area. Refer to the listing on page 27 of this guide.

The Hickman Elementary students identified, observed, and decided upon the San Diego mesa mint, an endangered plant found at a vernal pool area one mile from their school.

Our society tends to overlook many endangered species that are not warm and fuzzy or cute. For example, knowing the San Joaquin kit fox and the bald eagle might disappear truly tugs at our heart strings, but we rarely think about what our world would do without the Coachella Valley fringe-toed lizard or the Santa Cruz cypress tree. Without plants and invertebrates, vertebrates would not exist. Your students might want to consider choosing one of the more "hidden" plants or animals which may have a special meaning to them. You might check with some of the local resource groups listed in this guide to see if other projects exist in which your students can become involved with their services. You might also determine which local species is most at risk and requiring immediate attention to help with its preservation.

The local Sierra Club group approached Hickman Elementary School and encouraged them to become involved in protecting the mesa mint because it was located close to their school.

Some ideas suggested by other teachers to help students select a species include as identifying a species that could involve the most community action to help preserve it or polling students and having them debate and vote for their species either by a class or the entire school.

STEP TWO: EDUCATE YOURSELVES ABOUT THE SPECIES

To learn more about your adopted species, you should:

A. Have your students research the endangered plant or animal and its natural community they have chosen. Find out where it can still be found, why it became listed, and how its natural habitat is being threatened. You might consider adopting a community with several listed species. Find out what has caused the community to become rare. Is it naturally rare or has it been reduced through human disturbance? What environmental variables control its distribution? What rare or unusual species are associated with the community?

Hickman Elementary students found that the mesa mint grows only on northern San Diego mesas. The vernal pool where they located the species is situated in the middle of a residential area owned by a development company. The mesa mint's habitat is surrounded by houses, littered with trash, threatened by the roots of eucalyptus trees, and by junior high school students who trampled the plants while taking short cuts through the area on their way home.

B. Research any efforts that have already been taken to preserve the habitat. Have your students note any current management practices to protect the adopted species.

Five years before, the land development company had contacted the Army Corps of Engineers (as required by law) before building in the area containing a vernal pool. Realizing how fragile an area this was, however, Dr. Kathryn Wilde organized an effort to collect signatures from neighbors, gathered information from the California Department of Fish and Game, and hand-delivered everything to the hearing where the vernal pool area's fate was being decided. To date, her efforts and the community's support have succeeded, and the area has been spared.

Some teachers have suggested involving students in art projects or school bulletin boards as part of the students' research to learn about the species or community. They might also make reports to other students. Becoming involved in outdoor education programs can also provide additional information. Field trips to the habitat or community should be made only with extreme care so as not to disrupt the habitat. Working with a knowledgeable biologist or resource manager is advisable in sensative wildlife areas.

Many resources and organizations are available to help you and your students with your research. Check the bibliography beginning on page 102 of this guide for some suggestions. Contact the organizations listed in this resource guide, beginning on page 69. Also check the local university or agricultural extension service for individuals who may serve as experts on your adopted species.

STEP THREE: DEVELOP YOUR SCHOOL'S PLAN OF ACTION

The research data gathered by your students can be fashioned into an action plan to educate the community and make progress toward solving the problems regarding your adopted endangered species. Your complete plan should include:

A. A thoughtfully structured communication network within your school, to keep the students and teachers informed about new information regarding the project.

B. Information dissemination through the media including newspapers and informative flyers, programs your students conduct, television and radio announcements, and public trips (when appropriate) to the site of the endangered species' habitat.

C. Selected students' presentations to local officials to keep the community informed and hopefully to recruit their help in the issue.

D. County or city ordinances to help protect the species' habitat. For example, students at a school in Visalia, California were able to convince officials to pass an ordinance that prohibits cutting down the community's oak trees.

E. On-ground protection of the habitat, including joining efforts for purchaser acquisitions, conservation easements, and asking the appropriate sources to set aside specific areas exclusively for the species' habitat. Also, work with resource management agencies to restore habitat or remove litter.

Teachers have suggested the following ideas to include in the planning process. Determine what, if anything, is being done by other groups to protect the species or habitat. Investigate ways your might be able to help. Establish relationships with local organizations or environmental groups and let them know about your school's project so they can be aware of your efforts. Their resources could prove to be helpful. Plan for fund-raisers to promote the program and further action such as purchasing land or signs. These could include bake sales, school sponsored "___a-thons", raffling donated prizes, selling T-shirts and buttons with the species. Plan for publications such as producing brochures. Plan to publishing articles in your school newsletter and inform the local media. Document your ongoing efforts and projects with photographs, slides that can be incorporated into presentations, and black and white photographs that can be used for publication.

STEP FOUR: EDUCATE YOUR COMMUNITY

A. Begin with your school. Brainstorm with your students for ideas of how to make everyone in your building aware of the endangered species and the need to protect them. ***Here are some of the ideas Hickman Elementary students came up with:***

1. ***Have interested students give presentations about the species in classrooms.***
2. ***Tell friends about the plant or animal and ask them to spread the word.***
3. ***Write articles for the school newspaper.***
4. ***Have a poster contest and post the entries around the school community and other neighboring schools.***
5. ***Make a large "Save the (your adopted plant, animal, or community)" banner to hang in the auditorium, school office, or other prominent site.***
6. ***Have school assemblies about endangered plants, animals or sensitive natural communities.***
7. ***Make a video tape about the endangered species and its habitat and have your students travel to neighboring schools and talk with other classes about the Endangered Species Education Program.***

Activities that other teachers suggest include having students write, direct, and present plays or puppet shows about the species or natural community. They might record them on video and distribute the tape. Compose simple songs for younger kids or more popular rock arrangements about endangered species (songs about problematic issues do catch on — think about the success of Suzanne Vega's "Luka" and Phil Collins's "Another Day in Paradise"). Students might collect news articles related to the species or its habitat and make a scrap book. Create a cartoon hero or make the species the school mascot. Have a poetry or art contest and involve local public figures as honorary judges. Post the entries in the school hallways, libraries, or bulletin boards. Write RAP songs with music accompaniment for your species. Place a picture of the species in each classroom to remind everyone of its plight and your efforts.

B. Next, gather some ideas to educate the community members near your school. ***Hickman Elementary students came up with some good techniques to do this:***

1. ***Have students go door-to-door, explaining the importance of the plant or animal and its habitat, and the need to preserve it.***
2. ***Place information flyers in mailboxes or on garage door handles.***
3. ***Hang posters in the windows of local businesses (with their permission).***
4. ***Write information articles in the community newspapers.***

Some schools have suggested having a family barbecue or potluck dinner to benefit the species and to educate parents of the scope of the project as parental support is important.

C. Some of these ideas will also help you and your students educate the community beyond your neighborhood. ***Hickman Elementary students suggest keeping the residents of the your community informed through these techniques:***

1. ***Place posters in the public library, the mall, and local businesses.***
2. ***Make books about the plant or animal and its habitat for residents to check out from the public library.***
3. ***Ask a local television station to do a news story about your school 's efforts.***
4. ***Ask to put up an ad on the screen of your local movie theater.***
5. ***Create a fun and informative "chain letter."***
6. ***Write an article for a local conservation group's newsletter.***

Other teachers suggest having students write articles and public service announcements then contacting local media, participating in fairs, and working with local businesses such as grocery companies to have the message placed on grocery bags.

STEP FIVE: TAKE FURTHER STEPS TO PROTECT YOUR SPECIES

Presently, the general public's increased awareness and the efforts of citizens, special interest groups, and communities are helping to protect these plants and animals, and to preserve their natural habitats. The problem, however, is now more critical than ever. You and your students have the opportunity to build upon your efforts from school year to school year. Everything you do will help. You can never do too much to protect our endangered species from extinction. Also, through their contact with the community and the media, your students will realize that the work they do for endangered species goes far beyond the classroom.

It is a natural response to want to help your species by doing something to increase their numbers such as planting seeds of rare plants or breeding rare animals. Unfortunately, these types of actions often fail or may even have serious consequences to the survival of the species. For example, desert tortoises are relatively easy to breed in captivity, but captive tortoises often carry fatal diseases that infect wild tortoises when captives are released in the natural habitat.

Every school's project is open-ended. Have your students make long-term goals to work on protecting the species. Plan to continue working on your project with your students.

In the upcoming school year, Hickman Elementary plans to set up a meeting with the development company that manages the vernal pool area. They plan to let the company know about their Endangered Species Education Project and the San Diego mesa mint that inhabits the vernal pool area. Hickman Elementary is seeking the company's permission to construct gravel paths around the area to minimize foot traffic, and to put up informational signs about the vernal pools and the various plants that inhabit that area. If their relationship with the development company proves to be positive, Hickman Elementary might ask them to donate that land as an ecological preserve to the children of the city of San Diego.

There are many different ways you and your students can learn about endangered species, and many steps you can take to protect their habitats. Here are a few additional suggestions:

A. Act Locally.

1. Inform taxpayers that by filling in the line of their State Tax Returns, entitled "Rare and Endangered Species Preservation Program," under the heading, "Voluntary Contributions" they can directly contribute to funds needed to research and restore endangered species. California taxpayers can contribute any amount over one dollar to this unique statewide program that benefits more than 280 rare, threatened, and endangered species. Contact the California Endangered Species Coordinator, Natural Heritage Division, California Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814.
2. Attend and speak at public hearings and write editorials. Support your case with factual information. Reference your Biostat and prepare a large chart.
3. Work with other interested groups on a campaign to acquire easements or to buy the endangered species' habitat.
4. Adopt a park or site including the endangered species' habitat and create a nature trail or a guide book focusing on the issues concerning the endangered species. Publish and distribute the trail guide or become docents for the park. Make certain your trail does not impact on your species.
5. Assist local organizations and agencies with habitat restoration projects. All native species within the habitat deserve care and protection. Sometimes exotic species invade a natural community and with supervision students can help remove them. Refer to the guidelines on pages 13-14 of this manual if you plan to enter sensitive habitat.

B. Share Your Work Regionally.

1. Hold contests for students' essays or poems about the species (e.g.: "A Day in the Life of a Spotted Owl").
2. Have students organize and put on plays or puppet shows for other schools in your school district or in neighboring districts.
3. Display students' posters and/or professional artists' work in an Endangered Species Art Show.
4. Host an Outdoor Education Day where students participate in rounds of environmental education activities, including listening to panels of guest speakers.
5. Arrange field trips to the sites of the species' habitats to explain the threatening factors and to ask for help. **Remember: Some sites are very sensitive or inaccessible, and this activity may not be appropriate.**
6. Construct displays and exhibits about the endangered species and what threatens their future. State, county, and trade fairs might set aside public service exhibit space for these.
7. Put on slide programs to inform community groups such as the Rotary Club, the Lions, PTA's, the Kiwanis, etc.
8. Arrange a press conference and invite local press to learn about the plight of your adopted species.

9. Have students present John Muir Conservation Awards to all who have helped with the project and invite the press to attend the award ceremony.
10. Enter students' posters of adopted plant species in the California Native Plant Society's Youth Poster Contest.

STEP SIX: SHARE YOUR PROJECT WITH OTHERS

Teachers, students, and program funders are interested and need to know what others are doing around the State to educate about the plight of our endangered wildlife. This information is important and valuable; so please help ensure that information about your project is available. You can help by completing the participant information form in Appendix F on page 127 of this *Guide* and returning it to the address on the back of the form.

A reward for the efforts of your students is to enter your project in the annual statewide competition. Complete the "Adopt-a-Species" application form and a "Biostat" found on pages 115-118. Please read pages 13-14 for details concerning the competition guidelines. Remember, this is an annual project and you are encouraged to continue your project more than one year, update your application, and enter the competition annually.

SAMPLE ADOPTION PLAN

SENATE BILL NO. 885
The Endangered Species Education Project of 1989

ADOPTION PLAN

Albert Joe Hickman Elementary School
San Diego Unified School District
10850 Montongo
San Diego, California 92126
(619) 271-5210

Principal: Phil Smith
Lead Teacher: Beverly Ward Trust
Dr. Kathryn Wild (Parent)

Lead Students: There are 22 students on our Student Board of Directors; one student from each classroom, grades 1-6.

ADOPTED SPECIES INFORMATION:

1. What is the name of the endangered species our school adopted?

San Diego mesa mint

2. How did our school population decide top adopt this species?

The San Diego chapter of the Sierra Club asked Dr. Wild if our school would consider adopting one of our local endangered plants and create stories and artwork about it for their Childrens' Anthology On Endangered Species. This is a special publication for the Sierra Club's adopt-an-endangered species project. Shortly after that, our school was invited to participate in the Endangered Species Education Project.

Beverly Trust, the lead teacher for this project, asked each teacher from grades 1-6 to nominate 1 student from their classroom who was: interested in conservation and ecology, a leadership student, and a student who would be willing to serve on our Student Board of Directors for a minimum of 2 years. Our first meeting was held 1 mile from our school at a vernal pool area. We identified and observed the San Diego mesa mint, an endangered plant that grows only on northern San Diego mesas and no where else in the world.

Our local vernal pool area sits right in the middle of the Fieldstone Development area. Houses surround it, a road was stopped because of it, trash litters the area, and protective signs from Fish & Game Departments are hidden under eucalyptus trees whose roots threaten to destroy this vernal pool area. After our field trip and meeting, we discussed other San Diego endangered plants and animals, but the children were so

concerned about the welfare of our vernal pool, that they voted to adopt our San Diego mesa mint. Our students are already writing stories and creating artwork about this very fragile plant for the Sierra Club's publication, and they have developed and drafted the Endangered Species Education Program plan that follows.

3. How is the natural habitat of the endangered species threatened?

As mentioned above, the San Diego Mesa Mint grows in a vernal pool area in the middle of a residential area owned by the Fieldstone Development Company. The area is large enough to accommodate the building of 15-20 houses. In 5 years, Fieldstone has not built on this area. Even though the penalty for destroying a Federally listed endangered species is $50,000.00 and/or 1 year in prison and for State-listed species $5,000 and/or one year in prison, there are building loopholes which still threaten this area.

Fieldstone Development Company fenced this area off and hydro-seeded eucalyptus seeds around the border. These trees are 5 years old now, and their roots threaten to destroy the vernal pools within their boundaries. Other threats to the area include: junior high school students taking short cuts through the area on their way home—trampling the plants, and neighbors throwing car parts, large rocks, and trash on the vernal pools.

4. What steps had been taken to protect this area before your school adopted the species?

Five years ago, the Army Corps of Engineers was contacted by the Fieldstone Company for their approval before building in this area. At that time, the Army Corps of Engineers did not realize how fragile an area this was. Dr. Kathryn Wild organized an effort to collect signatures from neighbors to protect this vernal pool area. She also gathered information from the Fish & Game Department and hand delivered it to a hearing held to decide the fate of this vernal pool area. Because of her efforts and the support of the community, this area has, to date, been spared.

5. Which agencies, individuals, or groups assisted the students to research the threats to the habitat of the endangered species?

Dr. Kathryn Wild has been our primary source of information. Dr. Paul Zedler of San Diego State University, has also come out to our school to teach several classes about the San Diego mesa mint. He brought plants which he has successfully propagated at the university, and offered to let us try to propagate them on campus. The local chapter of the Sierra Club has also sent us information on this endangered species. As the new school year begins, we will be working with the San Diego Native Plant Society and the Natural History Museum's Canyoneers.

6. How do our students propose to educate the community about the threats to the habitat of the species?

A. To educate the local neighborhood, we propose to:

1. Have our students go door-to-door and explain the importance of the vernal pool area and the need to preserve it.
2. Place information flyers in mailboxes or on garage door handles.
3. Get permission from the proper sources to put up information signs in the vernal pool area. We will have an aluminum recycling drive to raise money for the signs.
4. Write information articles in our school newsletter and community newspapers.

B. To educate the teachers and students at our school, we propose to:

1. Have school assemblies about San Diego endangered plants and animals.
2. Have interested students give presentations about vernal pools and the San Diego mesa mint in classrooms.
3. Tell our friends about this plant and ask them to spread the word.
4. Write articles for our school newsletter.
5. Send an article and picture to the San Diego City Schools newsletter.
6. Have a poster contest and place all the entries around our school and at local agencies.
7. Make a large Save The San Diego Mesa Mint banner to hang in our auditorium.
8. Have a Save the San Diego mesa mint logo contest and print the winning logo on t-shirts, visors, hats or sunglasses. Profits from sales will go toward making signs or trails at the vernal pool areas (with approval) or constructing a campus native plant San Diego mesa mint habitat.
9. Make a video tape about the vernal pool area and our efforts to preserve it.
10. Travel to the junior high and other neighboring schools and talk with them or put up posters about the importance of preserving our vernal pools and the San Diego mesa mint. We could also present our video at one of the school's faculty meetings.

C. To educate our Mira Mesa community, we propose to:

1. Place posters in the public library, the mall and local businesses.
2. Write an article for the local community newspapers.
3. Ask a local television station to do a news story about our school's efforts.
4. Make books about our vernal pools for the public library which could be checked out.
5. Ask to put up an ad on the screen of our local movie theater.
6. Put posters up at the high school carnival.
7. Create a fun and informative "chain letter."
8. Ask to have an article put in the S. D. Zoo's Koala Club Newsletter.
9. Put an article in the Sierra Club Newsletter.
10. Put up a small display at the Natural History Museum.

7. What other steps can the school take to protect the habitat of the adopted species?

During the next school year we will try to set up a meeting with the Fieldstone Development Company to let them know about our Endangered Species Education Project and our adoption of the San Diego mesa mint that inhabits their vernal pool area. We would like to have their permission to construct gravel paths around the area for people to use and not endanger the plant further by stepping on them or their dormant seeds. We would also like to put up signs about the vernal pools and the various plants that inhabit that area. Perhaps we can remove some of the encroaching eucalyptus tree root systems.

At some point in the future, if our relationship with Fieldstone is a positive and cooperative one, we might ask if they would be willing to donate this land as an ecological preserve to the children of the City of San Diego.

8. What additional information would we like to share about our project?

We have a rectangular space approximately 15' X 30" in front of our school office building. We are hoping to raise funds and remove the grass from that area and replace it with native chaparral plants—including an area for the San Diego mesa mint. Since Dr. Paul Zedler is successfully propagating this at San Diego State University and has offered to let us try propagating it, this would be a wonderful, protected display habitat with informative signs, small gravel trails and benches for observation.

CALIFORNIA'S FEDERALLY AND STATE-LISTED PLANTS AND ANIMALS BY COUNTY

The following is a statewide record of federally-listed and state-listed rare, threatened, or endangered plants and animals categorized by county. This information was compiled by the Natural Diversity Data Base (NDDB) in the California Department of Fish and Game. While the NDDB is being constantly updated, there is sometimes a backlog of information that has not yet been included. The NDDB relies upon information submitted by scientists and the public.

Although the following information is complete and accurate to the best of the Department's knowledge, it does not constitute an offical response from a state agency, does not in itself meet the requirements of the California Environmental Quality Act, and does not replace the need for conducting field work. The information must be used in consultation with appropriate federal, state and local officials. Absence of data on a species or community does not constitute the basis for a declaration of negative environmental impact for development projects.

The following includes the species' common names, scientific names, and their federal and/or state status. The State of California lists species as Endangered, Threatened or Rare. Federally, species are listed as Endangered or Threatened, or as candidates with a status of Category 1, Category 2, Category 3B or Category 3C. Federal candidate species in Category 1 are those for which the U.S. Fish and Wildlife Service has on file enough substantial information on biological vulnerability and threats to support proposals to list them as "endangered" or "threatened." Candidate species in Category 2 are those for which information now in possession indicates that proposing to list as "endangered" or "threatened" is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support the listing. Plants and animals in Category 3B are candidates that do not meet the definition of "species" but may be reevaluated in the future on the basis of new information, while candidate species in Category 3C are those whose decline is uncertain. They may be reevaluated for possible inclusion in Categories 1 or 2 at a later date.

For more information about endangered species, please contact the organizations and agencies listed in this resource guide under "Resource Organizations and Agencies."

ALAMEDA

ANIMALS

1. CALIFORNIA BLACK RAIL
   Federal Status: Category 1
   Laterallus jamaicensis coturniculus
   State Status: Threatened
2. CALIFORNIA CLAPPER RAIL
   Federal Status: Endangered
   Rallus longirostris obsoletus
   State Status: Endangered
3. CALIFORNIA LEAST TERN
   Federal Status: Endangered
   Sterna antillarum browni
   State Status: Endangered
4. BANK SWALLOW
   Federal Status: None
   Riparia riparia
   State Status: Threatened
5. SALT MARSH HARVEST MOUSE
   Federal Status: Endangered
   Reithrodontomys raviventris
   State Status: Endangered
6. SAN JOAQUIN KIT FOX
   Federal Status: Endangered
   Vulpes macrotis mutica
   State Status: Threatened
7. ALAMEDA WHIPSNAKE
   Federal Status: Category 2
   Masticophis lateralis euryxanthus
   State Status: Threatened
8. BAY CHECKERSPOT BUTTERFLY
   Federal Status: Threatened
   Euphydryas editha bayensis
   State Status: None

PLANTS

1. MASON'S LILAEOPSIS — *Lilaeopsis masonii*
   Federal Status: Category 2 — State Status: Rare
2. SANTA CRUZ TARPLANT — *Holocarpha macradenia*
   Federal Status: Category 1 — State Status: Endangered
3. LARGE-FLOWERED FIDDLENECK — *Amsinckia grandiflora*
   Federal Status: Endangered — State Status: Endangered
4. ALAMEDA MANZANITA — *Arctostaphylos pallida*
   Federal Status: Category 1 — State Status: Endangered
5. PRESIDIO CLARKIA — *Clarkia franciscana*
   Federal Status: Category 1 — State Status: Endangered
6. ROBUST SPINEFLOWER — *Chorizanthe robusta* var *robusta*
   Federal Status: Proposed Endangered — State Status: None
7. FERRIS' BIRD'S-BEAK — *Cordylanthus palmatus*
   Federal Status: Endangered — State Status: Endangered

ALPINE

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
3. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
4. LAHONTAN CUTTHROAT TROUT — *Oncorhynchus clarki henshawi*
   Federal Status: Threatened — State Status: None
5. PAIUTE CUTTHROAT TROUT — *Oncorhynchus clarki seleniris*
   Federal Status: Threatened — State Status: None
6. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
7. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

No listed plants are recorded from Alpine County

AMADOR

ANIMALS

1. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. IONE BUCKWHEAT — *Eriogonum apricum* var *apricum*
   Federal Status: Category 1 — State Status: Endangered
2. IRISH HILL BUCKWHEAT — *Eriogonum apricum* var *prostratum*
   Federal Status: Category 1 — State Status: Endangered

BUTTE

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
5. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
6. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. BUTTE COUNTY MEADOWFOAM — *Limnanthes floccosa* ssp *californica*
   Federal Status: Endangered — State Status: Endangered
2. HAIRY ORCUTT GRASS — *Orcuttia pilosa*
   Federal Status: Category 1 — State Status: Endangered
3. GREENE'S TUCTORIA — *Tuctoria greenei*
   Federal Status: Category 1 — State Status: Rare

CALAVERAS

ANIMALS

No listed animals are recorded from Calaveras County

PLANTS

1. DELTA BUTTON CELERY — *Eryngium racemosum*
   Federal Status: Category 2 — State Status: Endangered

COLUSA

ANIMALS

1. ALEUTIAN CANADA GOOSE — *Branta canadensis leucopareia*
   Federal Status: Threatened — State Status: None
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
5. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened

7. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
8. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. MILO BAKER'S LUPINE — *Lupinus milo-bakeri*
   Federal Status: Category 2 — State Status: Threatened
2. FERRIS' BIRD'S-BEAK — *Cordylanthus palmatus*
   Federal Status: Endangered — State Status: Endangered
3. INDIAN VALLEY BRODIAEA — *Brodiaea coronaria* ssp *rosea*
   Federal Status: Category 2 — State Status: Endangered

CONTRA COSTA

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. CALIFORNIA BLACK RAIL — *Lateralus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
3. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
4. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
5. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered
6. ALAMEDA WHIPSNAKE — *Masticophis lateralis euryxanthus*
   Federal Status: Category 2 — State Status: Threatened
7. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
8. LANGE'S METALMARK BUTTERFLY — *Apodemia mormo langei*
   Federal Status: Endangered — State Status: None
9. BAY CHECKERSPOT BUTTERFLY — *Euphydryas editha bayensis*
   Federal Status: Threatened — State Status: None

PLANTS

1. MASON'S LILAEOPSIS — *Lilaeopsis masonii*
   Federal Status: Category 2 — State Status: Rare
2. ROCK SANICLE — *Sanicula saxatilis*
   Federal Status: Category 2 — State Status: Rare
3. SANTA CRUZ TARPLANT — *Holocarpha macradenia*
   Federal Status: Category 1 — State Status: Endangered
4. CONTRA COSTA WALLFLOWER — *Erysimum capitatum* var *angustatum*
   Federal Status: Endangered — State Status: Endangered
5. ALAMEDA MANZANITA — *Arctostaphylos pallida*
   Federal Status: Category 1 — State Status: Endangered
6. ANTIOCH DUNES EVENING-PRIMROSE — *Oenothera deltoides* ssp *howellii*
   Federal Status: Endangered — State Status: Endangered
7. SOFT BIRD'S-BEAK — *Cordylanthus mollis* ssp *mollis*
   Federal Status: Category 1 — State Status: Rare
8. MT. DIABLO BIRD'S-BEAK — *Cordylanthus nidularius*
   Federal Status: Category 1 — State Status: Rare

DEL NORTE

ANIMALS

1. ALEUTIAN CANADA GOOSE — *Branta canadensis leucopareia*
   Federal Status: Threatened — State Status: None
2. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened
5. OREGON SILVERSPOT BUTTERFLY — *Speyeria zerene hippolyta*
   Federal Status: Threatened — State Status: None

PLANTS

1. MCDONALD'S ROCK CRESS — *Arabis macdonaldiana*
   Federal Status: Endangered — State Status: Endangered
2. LEAFY REED GRASS — *Calamagrostis foliosa*
   Federal Status: Category 3C — State Status: Rare

EL DORADO

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. LAHONTAN CUTTHROAT TROUT — *Oncorhynchus clarki henshawi*
   Federal Status: Threatened — State Status: None
5. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
6. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. LAYNE'S BUTTERWEED — *Senecio layneae*
   Federal Status: Category 2 — State Status: Rare
2. TAHOE YELLOW CRESS — *Rorippa subumbellata*
   Federal Status: Category 1 — State Status: Endangered
3. STEBBINS' MORNING-GLORY — *Calystegia stebbinsii*
   Federal Status: Category 2 — State Status: Endangered
4. PINE HILL CEANOTHUS — *Ceanothus roderickii*
   Federal Status: Category 1 — State Status: Rare
5. EL DORADO BEDSTRAW — *Galium californicum* ssp *sierrae*
   Federal Status: Category 2 — State Status: Rare
6. PINE HILL FLANNELBUSH — *Fremontodendron decumbens*
   Federal Status: Category 1 — State Status: Rare

FRESNO

ANIMALS

1. SWAINSON'S HAWK Federal Status: Category 3C	*Buteo swainsoni* State Status: Threatened
2. WESTERN YELLOW BILLED CUCKOO Federal Status: Category 3B	*Coccyzus americanus occidentalis* State Status: Endangered
3. WILLOW FLYCATCHER Federal Status: None	*Empidonax traillii* State Status: Endangered
4. BANK SWALLOW Federal Status: None	*Riparia riparia* State Status: Threatened
5. LAHONTAN CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki henshawi* State Status: None
6. PAIUTE CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki seleniris* State Status: None
7. SAN JOAQUIN ANTELOPE SQUIRREL Federal Status: Category 2	*Ammospermophilus nelsoni* State Status: Threatened
8. GIANT KANGAROO RAT Federal Status: Endangered	*Dipodomys ingens* State Status: Endangered
9. FRESNO KANGAROO RAT Federal Status: Endangered	*Dipodomys nitratoides exilis* State Status: Endangered
10. SIERRA NEVADA RED FOX Federal Status: Category 2	*Vulpes vulpes necator* State Status: Threatened
11. SAN JOAQUIN KIT FOX Federal Status: Endangered	*Vulpes macrotis mutica* State Status: Threatened
12. WOLVERINE Federal Status: Category 2	*Gulo gulo* State Status: Threatened
13. CALIFORNIA BIGHORN SHEEP Federal Status: Category 2	*Ovis canadensis californiana* State Status: Threatened
14. BLUNT NOSED LEOPARD LIZARD Federal Status: Endangered	*Gambelia silus* State Status: Endangered
15. GIANT GARTER SNAKE Federal Status: Category 2	*Thamnophis gigas* State Status: Threatened

PLANTS

1. HARTWEG'S PSEUDOBAHIA Federal Status: Category 2	*Pseudobahia bahiifolia* State Status: Endangered
2. TULARE PSEUDOBAHIA Federal Status: Category 1	*Pseudobahia peirsonii* State Status: Endangered
3. SAN JOAQUIN WOOLY-THREADS Federal Status: Endangered	*Lembertia congdonii* State Status: None
4. CALIFORNIA JEWELFLOWER Federal Status: Endangered	*Caulanthus californicus* State Status: Endangered
5. HOOVER'S ERIASTRUM Federal Status: Threatened	*Eriastrum hooveri* State Status: None
6. CONGDON'S LEWISIA Federal Status: Category 3C	*Lewisia congdonii* State Status: Rare
7. TREE-ANEMONE Federal Status: Category 1	*Carpenteria californica* State Status: Threatened
8. FERRIS' BIRD'S-BEAK Federal Status: Endangered	*Cordylanthus palmatus* State Status: Endangered
9. BOGGS LAKE HEDGE-HYSSOP Federal Status: Category 2	*Gratiola heterosepala* State Status: Endangered

10. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulen*tus
    Federal Status: Category 2 — State Status: Endangered
11. TOMPKIN'S SEDGE — *Carex tompkinsii*
    Federal Status: Category 3C — State Status: Rare
12. SAN JOAQUIN VALLEY ORCUTT GRASS — *Orcuttia inaequalis*
    Federal Status: Category 1 — State Status: Endangered
13. GREENE'S TUCTORIA — *Tuctoria greenei*
    Federal Status: Category 1 — State Status: Rare

GLENN

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
5. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
6. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. INDIAN VALLEY BRODIAEA — *Brodiaea coronaria* ssp *rosea*
   Federal Status: Category 2 — State Status: Endangered

HUMBOLDT

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
3. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
4. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened

PLANTS

1. BEACH LAYIA — *Layia carnosa*
   Federal Status: Endangered — State Status: Endangered
2. MENZIES' WALLFLOWER — *Erysimum menziesii*
   Federal Status: Endangered — State Status: Endangered
3. HUMBOLDT MILK VETCH — *Astragalus agnicidus*
   Federal Status: Category 1 — State Status: Endangered

4. BENSONIELLA — *Bensoniella oregona*
   Federal Status: Category 2 — State Status: Rare
5. WESTERN LILY — *Lilium occidentale*
   Federal Status: Category 1 — State Status: Endangered
6. LEAFY REED GRASS — *Calamagrostis foliosa*
   Federal Status: Category 3C — State Status: Rare

IMPERIAL

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
2. YUMA CLAPPER RAIL — *Rallus longirostris yumanensis*
   Federal Status: Endangered — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. ELF OWL — *Micrathene whitneyi*
   Federal Status: None — State Status: Endangered
5. GILA WOODPECKER — *Melanerpes uropygialis*
   Federal Status: None — State Status: Endangered
6. GILDED NORTHERN FLICKER — *Colaptes auratus chrysoides*
   Federal Status: None — State Status: Endangered
7. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
8. ARIZONA BELLS VIREO — *Vireo bellii arizonae*
   Federal Status: Category 3C — State Status: Endangered
9. COLORADO SQUAWFISH — *Ptychocheilus lucius*
   Federal Status: Endangered — State Status: Endangered
10. RAZORBACK SUCKER — *Xyrauchen texanus*
    Federal Status: Proposed Endangered — State Status: Endangered
11. DESERT PUPFISH — *Cyprinodon macularius*
    Federal Status: Endangered — State Status: Endangered
12. PENINSULAR BIGHORN SHEEP — *Ovis canadensis cremnobates*
    Federal Status: Category 2 — State Status: Threatened
13. DESERT TORTOISE — *Gopherus agassizii*
    Federal Status: Threatened — State Status: Threatened
14. BAREFOOT BANDED GECKO — *Coleonyx switaki*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. ALGODONES DUNES SUNFLOWER — *Helianthus niveus* ssp *tephrodes*
   Federal Status: Category 2 — State Status: Endangered
2. WIGGIN'S CROTON — *Croton wigginsii*
   Federal Status: Category 3C — State Status: Rare
3. PEIRSON'S MILK VETCH — *Astragalus magdalenae* var *piersoni*
   Federal Status: Category 2 — State Status: Endangered

INYO

ANIMALS

1. BLACK TOAD Federal Status: Category 2	*Bufo exsul* State Status: Threatened
2. SWAINSON'S HAWK Federal Status: Category 3C	*Buteo swainsoni* State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO Federal Status: Category 3B	*Coccyzus americanus occidentalis* State Status: Endangered
4. WILLOW FLYCATCHER Federal Status: None	*Empidonax traillii* State Status: Endangered
5. LEAST BELL'S VIREO Federal Status: Endangered	*Vireo bellii pusillus* State Status: Endangered
6. INYO CALIFORNIA TOWHEE Federal Status: Threatened	*Pipilo crissalis eremophilus* State Status: Endangered
7. OWENS TUI CHUB Federal Status: Endangered	*Gila bicolor snyderi* State Status: Endangered
8. OWENS PUPFISH Federal Status: Endangered	*Cyprinodon radiosus* State Status: Endangered
9. COTTONBALL MARSH PUPFISH Federal Status: None	*Cyprinodon salinus milleri* State Status: Threatened
10. MOHAVE GROUND SQUIRREL Federal Status: Category 2	*Spermophilus mohavensis* State Status: Threatened
11. AMARGOSA VOLE Federal Status: Endangered	*Microtus californicus scirpensis* State Status: Endangered
12. WOLVERINE Federal Status: Category 2	*Gulo gulo* State Status: Threatened
13. CALIFORNIA BIGHORN SHEEP Federal Status: Category 2	*Ovis canadensis californiana* State Status: Threatened
14. DESERT TORTOISE Federal Status: Threatened	*Gopherus agassizii* State Status: Threatened

PLANTS

1. ASH MEADOWS GUMPLANT Federal Status: Threatened	*Grindelia fraxino-pratensis* State Status: None
2. BRISTLECONE CRYPTANTHA Federal Status: Category 2	*Cryptantha roosiorum* State Status: Rare
3. AMARGOSA NITROPHILA Federal Status: Endangered	*Nitrophila mohavensis* State Status: Endangered
4. SODAVILLE MILK VETCH Federal Status: Category 1	*Astragalus lentiginosus* var *sesquimetralis* State Status: Endangered
5. FATHER CROWLEY'S LUPINE Federal Status: Category 2	*Lupinus padre-crowleyi* State Status: Rare
6. SPRING-LOVING CENTAURY Federal Status: Threatened	*Centaurium namophilum varnamophilum* State Status: None
7. OWENS VALLEY CHECKERBLOOM Federal Status: Category 2	*Sidalcea covellei* State Status: Endangered
8. EUREKA DUNES EVENING-PRIMROSE Federal Status: Endangered	*Oenothera avita* ssp *eurekensis* State Status: Rare
9. JULY GOLD Federal Status: Category 3C	*Dedeckera eurekensis* State Status: Rare

10. ROCKLADY — *Maurandya petrophila*
    Federal Status: Category 2 — State Status: Rare
11. EUREKA VALLEY DUNE GRASS — *Swallenia alexandrae*
    Federal Status: Endangered — State Status: Rare

KERN

ANIMALS

1. KERN CANYON SLENDER SALAMANDER — *Batrachoseps simatus*
   Federal Status: Category 2 — State Status: Threatened
2. TEHACHAPI SLENDER SALAMANDER — *Batrachoseps stebbinsi*
   Federal Status: Category 2 — State Status: Threatened
3. CALIFORNIA CONDOR — *Gymnogyps californianus*
   Federal Status: Endangered — State Status: Endangered
4. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
5. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
6. MOHAVE TUI CHUB — *Gila bicolor mohavensis*
   Federal Status: Endangered — State Status: Endangered
7. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
8. MOHAVE GROUND SQUIRREL — *Spermophilus mohavensis*
   Federal Status: Category 2 — State Status: Threatened
9. GIANT KANGAROO RAT — *Dipodomys ingens*
   Federal Status: Endangered — State Status: Endangered
10. TIPTON KANGAROO RAT — *Dipodomys nitratoides nitratoides*
    Federal Status: Endangered — State Status: Endangered
11. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
    Federal Status: Endangered — State Status: Threatened
12. WOLVERINE — *Gulo gulo*
    Federal Status: Category 2 — State Status: Threatened
13. DESERT TORTOISE — *Gopherus agassizii*
    Federal Status: Threatened — State Status: Threatened
14. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
    Federal Status: Endangered — State Status: Endangered
15. SOUTHERN RUBBER BOA — *Charina bottae umbratica*
    Federal Status: Category 2 — State Status: Threatened
16. KERN PRIMROSE SPHINX MOTH — *Euproserpinus euterpe*
    Federal Status: Threatened — State Status: None

PLANTS

1. RED ROCK TARPLANT — *Hemizonia arida*
   Federal Status: Category 1 — State Status: Rare
2. TULARE PSEUDOBAHIA — *Pseudobahia peirsonii*
   Federal Status: Category 1 — State Status: Endangered
3. SAN JOAQUIN WOOLY-THREADS — *Lembertia congdonii*
   Federal Status: Endangered — State Status: None
4. CALIFORNIA JEWELFLOWER — *Caulanthus californicus*
   Federal Status: Endangered — State Status: Endangered
5. BAKERSFIELD CACTUS — *Opuntia basilaris* var *treleasei*
   Federal Status: Endangered — State Status: Endangered

6. TWISSELMANN'S NEMACLADUS — *Nemacladus twisselmannii*
   Federal Status: Category 2 — State Status: Rare
7. BAKERSFIELD SALTBUSH — *Atriplex tularensis*
   Federal Status: Category 2 — State Status: Endangered
8. KERN MALLOW — *Eremalche kernensis*
   Federal Status: Endangered — State Status: None
9. HOOVER'S ERIASTRUM — *Eriastrum hooveri*
   Federal Status: Threatened — State Status: None
10. MEXICAN FLANNELBUSH — *Fremontodendron mexicanum*
    Federal Status: Category 2 — State Status: Rare
11. STRIPED ADOBE LILY — *Fritillaria striata*
    Federal Status: Category 2 — State Status: Threatened

KINGS

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
3. GIANT KANGAROO RAT — *Dipodomys ingens*
   Federal Status: Endangered — State Status: Endangered
4. TIPTON KANGAROO RAT — *Dipodomys nitratoides nitratoides*
   Federal Status: Endangered — State Status: Endangered
5. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
6. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
   Federal Status: Endangered — State Status: Endangered

PLANTS

1. SAN JOAQUIN WOOLY-THREADS — *Lembertia congdonii*
   Federal Status: Endangered — State Status: None
2. CALIFORNIA JEWELFLOWER — *Caulanthus californicus*
   Federal Status: Endangered — State Status: Endangered

LAKE

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None

PLANTS

1. LOCH LOMOND BUTTON CELERY — *Eryngium constancei*
   Federal Status: Endangered — State Status: Endangered
2. BURKE'S GOLDFIELDS — *Lasthenia burkei*
   Federal Status: Endangered — State Status: Endangered
3. LAKE COUNTY STONECROP — *Parvisedum leiocarpum*
   Federal Status: Category 1 — State Status: Endangered

4. LAKE COUNTY DWARF FLAX — *Hesperolinon didymocarpum*
   Federal Status: Category 1 — State Status: Endangered
5. FEW-FLOWERED NAVARRETIA — *Naverretia pauciflora*
   Federal Status: Category 2 — State Status: Threatened
6. MANY-FLOWERED NAVARRETIA — *Naverretia plieantha*
   Federal Status: Category 1 — State Status: Endangered
7. BOGGS LAKE HEDGE-HYSSOP — *Gratiola heterosepala*
   Federal Status: Category 2 — State Status: Endangered
8. INDIAN VALLEY BRODIAEA — *Brodiaea coronaria* ssp *rosea*
   Federal Status: Category 2 — State Status: Endangered
9. SLENDER ORCUTT GRASS — *Orcuttia tenuis*
   Federal Status: Category 1 — State Status: Endangered

LASSEN

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
4. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
5. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
7. MODOC SUCKER — *Catostomus microps*
   Federal Status: Endangered — State Status: Endangered
8. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
9. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. BOGGS LAKE HEDGE-HYSSOP — *Gratiola heterosepala*
   Federal Status: Category 2 — State Status: Endangered

LOS ANGELES

ANIMALS

1. CALIFORNIA CONDOR — *Gymnogyps californianus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened

4. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
5. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
7. SAN CLEMENTE LOGGERHEAD SHRIKE — *Lanius ludovicianus mearnsi*
   Federal Status: Endangered — State Status: None
8. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
9. SAN CLEMENTE SAGE SPARROW — *Amphispiza belli clementeae*
   Federal Status: Threatened — State Status: None
10. BELDING'S SAVANNAH SPARROW — *Passerculus sandwichensis beldingi*
    Federal Status: Category 2 — State Status: Endangered
11. MOHAVE TUI CHUB — *Gila bicolor mohavensis*
    Federal Status: Endangered — State Status: Endangered
12. UNARMORED THREESPINE STICKLEBACK — *Gasterosteus aculeatus williamsoni*
    Federal Status: Endangered — State Status: Endangered
13. MOHAVE GROUND SQUIRREL — *Spermophilus mohavensis*
    Federal Status: Category 2 — State Status: Threatened
14. ISLAND FOX — *Urocyon littoralis*
    Federal Status: Category 2 — State Status: Threatened
15. DESERT TORTOISE — *Gopherus agassizii*
    Federal Status: Threatened — State Status: Threatened
16. ISLAND NIGHT LIZARD — *Xantusia riversiana*
    Federal Status: Threatened — State Status: None
17. EL SEGUNDO BLUE BUTTERFLY — *Euphilotes battoides allyni*
    Federal Status: Endangered — State Status: None
18. PALOS VERDES BLUE — *Glaucopsyche lygdamus palosverdesensis*
    Federal Status: Endangered — State Status: None

PLANTS

1. SANTA SUSANA TARPLANT — *Hemizonia minthornii*
   Federal Status: Category 2 — State Status: Rare
2. LYON'S PENTACHAETA — *Pentachaeta lyonii*
   Federal Status: Category 1 — State Status: Endangered
3. NEVIN'S BARBERRY — *Mahonia nevinii*
   Federal Status: Category 1 — State Status: Endangered
4. BEACH SPECTACLE POD — *Dithyrea maritima*
   Federal Status: Category 2 — State Status: Threatened
5. SANTA MONICA MTNS. DUDLEYA — *Dudleya cymosa* ssp *marcescens*
   Federal Status: Category 2 — State Status: Rare
6. SAN CLEMENTE ISLAND BIRD'S-FOOT TREFOIL — *Lotus argophyllus* ssp *adsurgens*
   Federal Status: Category 2 — State Status: Endangered
7. SAN CLEMENTE ISLAND LOTUS — *Lotus denroideus* var *traskiae*
   Federal Status: Endangered — State Status: Endangered
8. SAN CLEMENTE ISLAND BUSH MALLOW — *Malacothamnus clementinus*
   Federal Status: Endangered — State Status: Endangered
9. SLENDER-HORNED SPINEFLOWER — *Dodecahema leptoceras*
   Federal Status: Endangered — State Status: Endangered
10. CONEJO BUCKWHEAT — *Eriogonum crocatum*
    Federal Status: Category 2 — State Status: Rare

11. SAN CLEMENTE ISLAND LARKSPUR Federal Status: Endangered	*Delphinium variegatum* ssp *kinkiense* State Status: Endangered
12. SANTA CATALINA ISLAND MOUNTAIN-MAHOGANY Federal Status: Category 1	*Cercocarpus traskiae* State Status: Endangered
13. SAN CLEMENTE ISLAND BEDSTRAW Federal Status: Category 2	*Galium catalinense* ssp *acrispum* State Status: Endangered
14. SAN CLEMENTE ISLAND WOODLAND STAR Federal Status: Category 1	*Lithophragma maximum* State Status: Endangered
15. MT. GLEASON INDIAN PAINTBRUSH Federal Status: Category 2	*Castilleja gleasonii* State Status: Rare
16. SAN CLEMENTE ISLAND INDIAN PAINTBRUSH Federal Status: Endangered	*Castilleja grisea* State Status: Endangered
17. MEXICAN FLANNELBUSH Federal Status: Category 2	*Fremontodendron mexicanum* State Status: Rare
18. CALIFORNIA ORCUTT GRASS Federal Status: Proposed Endangered	*Orcuttia california* State Status: Endangered

MADERA

ANIMALS

1. SWAINSON'S HAWK Federal Status: Category 3C	*Buteo swainsoni* State Status: Threatened
2. WESTERN YELLOW BILLED CUCKOO Federal Status: Category 3B	*Coccyzus americanus occidentalis* State Status: Endangered
3. GREAT GRAY OWL Federal Status: None	*Strix nebulosa* State Status: Endangered
4. WILLOW FLYCATCHER Federal Status: None	*Empidonax traillii* State Status: Endangered
5. LAHONTAN CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki henshawi* State Status: None
6. PAIUTE CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki seleniris* State Status: None
7. FRESNO KANGAROO RAT Federal Status: Endangered	*Dipodomys nitratoides exilis* State Status: Endangered
8. SIERRA NEVADA RED FOX Federal Status: Category 2	*Vulpes vulpes necator* State Status: Threatened
9. WOLVERINE Federal Status: Category 2	*Gulo gulo* State Status: Threatened
10. BLUNT NOSED LEOPARD LIZARD Federal Status: Endangered	*Gambelia silus* State Status: Endangered
11. GIANT GARTER SNAKE Federal Status: Category 2	*Thamnophis gigas* State Status: Threatened

PLANTS

1. HARTWEG'S PSEUDOBAHIA Federal Status: Category 2	*Pseudobahia bahiifolia* State Status: Endangered
2. TREE-ANEMONE Federal Status: Category 1	*Carpenteria californica* State Status: Threatened
3. FERRIS' BIRD'S-BEAK Federal Status: Endangered	*Cordylanthus palmatus* State Status: Endangered

4. BOGGS LAKE HEDGE-HYSSOP — *Gratiola heterosepala*
   Federal Status: Category 2 — State Status: Endangered
5. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulentus*
   Federal Status: Category 2 — State Status: Endangered
6. HAIRY ORCUTT GRASS — *Orcuttia pilosa*
   Federal Status: Category 1 — State Status: Endangered
7. SAN JOAQUIN VALLEY ORCUTT GRASS — *Orcuttia inaequalis*
   Federal Status: Category 1 — State Status: Endangered
8. GREENE'S TUCTORIA — *Tuctoria greenei*
   Federal Status: Category 1 — State Status: Rare

MARIN

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
2. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
3. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
4. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered
5. CALIFORNIA FRESHWATER SHRIMP — *Syncaris pacifica*
   Federal Status: Endangered — State Status: Endangered
6. MISSION BLUE BUTTERFLY — *Icaricia acaricia missionensis*
   Federal Status: Endangered — State Status: None

PLANTS

1. PT. REYES BLENNOSPERMA — *Blennosperma nanum* var *robustum*
   Federal Status: Category 2 — State Status: Rare
2. BEACH LAYIA — *Layia carnosa*
   Federal Status: Endangered — State Status: Endangered
3. WHITE-RAYED PENTACHAETA — *Pentachaeta bellidiflora*
   Federal Status: Category 2 — State Status: Endangered
4. TIBURON JEWELFLOWER — *Streptanthus niger*
   Federal Status: Category 1 — State Status: Endangered
5. PT. REYES MEADOWFOAM — *Limnanthes douglasii* ssp *sulphurea*
   Federal Status: Category 2 — State Status: Endangered
6. MARIN DWARF FLAX — *Hesperolinon congestum*
   Federal Status: Category 1 — State Status: Threatened
7. SONOMA SPINEFLOWER — *Chorizanthe valida*
   Federal Status: Endangered — State Status: Endangered
8. BAKER'S LARKSPUR — *Delphinium bakeri*
   Federal Status: Category 1 — State Status: Rare
9. YELLOW LARKSPUR — *Delphinium luteum*
   Federal Status: Category 1 — State Status: Rare
10. MASON'S CEANOTHUS — *Ceanothus masonii*
    Federal Status: Category 2 — State Status: Rare
11. TIBURON INDIAN PAINTBRUSH — *Castilleja neglecta*
    Federal Status: Category 1 — State Status: Threatened

12. SOFT BIRD'S-BEAK — *Cordylanthus mollis* ssp *mollis*
    Federal Status: Category 1 — State Status: Rare
13. TIBURON MARIPOSA LILY — *Calochortus tiburonensis*
    Federal Status: Category 2 — State Status: Threatened
14. MARIN BENT GRASS — *Agrostis blasdalei* var *marinensis*
    Federal Status: Category 2 — State Status: Rare
15. NORTH COAST SEMAPHORE GRASS — *Pleuropogon hooverianus*
    Federal Status: Category 2 — State Status: Rare

MARIPOSA

ANIMALS

1. LIMESTONE SALAMANDER — *Hydromantes brunus*
   Federal Status: Category 2 — State Status: Threatened
2. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
3. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
4. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
5. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. CONGDON'S WOOLLY SUNFLOWER — *Eriophyllum congdonii*
   Federal Status: Category 3C — State Status: Rare
2. MARIPOSA LUPINE — *Lupinus deflexus*
   Federal Status: Category 2 — State Status: Threatened
3. MERCED CLARKIA — *Clarkia lingulata*
   Federal Status: Category 1 — State Status: Endangered
4. CONGDON'S LEWISIA — *Lewisia congdonii*
   Federal Status: Category 3C — State Status: Rare
5. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulentus*
   Federal Status: Category 2 — State Status: Endangered
6. TOMPKIN'S SEDGE — *Carex tompkinsii*
   Federal Status: Category 3C — State Status: Rare
7. YOSEMITE ONION — *Allium yosemitense*
   Federal Status: Category 3C — State Status: Rare

MENDOCINO

ANIMALS

1. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
2. POINT ARENA MOUNTAIN BEAVER — *Aplodontia rufa nigra*
   Federal Status: Proposed Endangered — State Status: None
3. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

4. LOTIS BLUE BUTTERFLY — *Lycaeides argyrognomon lotis*
   Federal Status: Endangered — State Status: None

PLANTS

1. PT. REYES BLENNOSPERMA — *Blennosperma nanum* var *robustum*
   Federal Status: Category 2 — State Status: Rare
2. MCDONALD'S ROCK CRESS — *Arabis macdonaldiana*
   Federal Status: Endangered — State Status: Endangered
3. MENZIES' WALLFLOWER — *Erysimum menziesii*
   Federal Status: Endangered — State Status: Endangered
4. RED MOUNTAIN CATCHFLY — *Silene campanulata* ssp *campanulata*
   Federal Status: Category 1 — State Status: Endangered
5. MILO BAKER'S LUPINE — *Lupinus milo-bakeri*
   Federal Status: Category 2 — State Status: Threatened
6. BAKER'S MEADOWFOAM — *Limnanthes bakeri*
   Federal Status: Category 2 — State Status: Rare
7. HOWELL'S SPINEFLOWER — *Chorizanthe howellii*
   Federal Status: Proposed Endangered — State Status: Threatened
8. KELLOGG'S BUCKWHEAT — *Eriogonum kelloggii*
   Federal Status: Category 1 — State Status: Endangered
9. RODERICK'S FRITILLARY — *Fritillaria roderickii*
   Federal Status: Category 2 — State Status: Endangered
10. LEAFY REED GRASS — *Calamagrostis foliosa*
    Federal Status: Category 3C — State Status: Rare
11. NORTH COAST SEMAPHORE GRASS — *Pleuropogon hooverianus*
    Federal Status: Category 2 — State Status: Rare

MERCED

ANIMALS

1. ALEUTIAN CANADA GOOSE — *Branta canadensis leucopareia*
   Federal Status: Threatened — State Status: None
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
4. GIANT KANGAROO RAT — *Dipodomys ingens*
   Federal Status: Endangered — State Status: Endangered
5. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
6. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
   Federal Status: Endangered — State Status: Endangered
7. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
8. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. DELTA BUTTON CELERY — *Eryngium racemosum*
   Federal Status: Category 2 — State Status: Endangered

2. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulentus*
   Federal Status: Category 2 — State Status: Endangered
3. COLUSA GRASS — *Neostapfia colusana*
   Federal Status: Category 1 — State Status: Endangered
4. HAIRY ORCUTT GRASS — *Orcuttia pilosa*
   Federal Status: Category 1 — State Status: Endangered
5. SAN JOAQUIN VALLEY ORCUTT GRASS — *Orcuttia inaequalis*
   Federal Status: Category 1 — State Status: Endangered
6. GREENE'S TUCTORIA — *Tuctoria greenei*
   Federal Status: Category 1 — State Status: Rare

MODOC

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
4. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
5. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
6. LOST RIVER SUCKER — *Deltistes luxatus*
   Federal Status: Endangered — State Status: Endangered
7. MODOC SUCKER — *Catostomus microps*
   Federal Status: Endangered — State Status: Endangered
8. SHORTNOSE SUCKER — *Chasmistes brevirostris*
   Federal Status: Endangered — State Status: Endangered
9. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened
10. CALIFORNIA BIGHORN SHEEP — *Ovis canadensis californiana*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

No listed plants are recorded from Modoc County

MONO

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
3. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
4. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened

5. LAHONTAN CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki henshawi* State Status: None
6. PAIUTE CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki seleniris* State Status: None
7. OWENS TUI CHUB Federal Status: Endangered	*Gila bicolor snyderi* State Status: Endangered
8. OWENS PUPFISH Federal Status: Endangered	*Cyprinodon radiosus* State Status: Endangered
9. SIERRA NEVADA RED FOX Federal Status: Category 2	*Vulpes vulpes necator* State Status: Threatened
10. WOLVERINE Federal Status: Category 2	*Gulo gulo* State Status: Threatened
11. CALIFORNIA BIGHORN SHEEP Federal Status: Category 2	*Ovis canadensis californiana* State Status: Threatened

PLANTS

1. LONG VALLEY MILK VETCH Federal Status: Category 3C	*Astragalus johannis-howellii* State Status: Rare
2. MONO MILK VETCH Federal Status: Category 2	*Astragalus monoensis* State Status: Rare
3. JULY GOLD Federal Status: Category 3C	*Dedeckera eurekensis* State Status: Rare

MONTEREY

ANIMALS

1. SANTA CRUZ LONG TOED SALAMANDER Federal Status: Endangered	*Ambystoma macrodactylum croceum* State Status: Endangered
2. CALIFORNIA BROWN PELICAN (NESTING COLONY) Federal Status: Endangered	*Pelecanus occidentalis californicus* State Status: Endangered
3. CALIFORNIA CLAPPER RAIL Federal Status: Endangered	*Rallus longirostris obsoletus* State Status: Endangered
4. BANK SWALLOW Federal Status: None	*Riparia riparia* State Status: Threatened
5. LEAST BELL'S VIREO Federal Status: Endangered	*Vireo bellii pusillus* State Status: Endangered
6. SAN JOAQUIN KIT FOX Federal Status: Endangered	*Vulpes macrotis mutica* State Status: Threatened
7. SMITH'S BLUE BUTTERFLY Federal Status: Endangered	*Euphilotes enoptes smithi* State Status: None

PLANTS

1. ADOBE SANICLE Federal Status: Category 2	*Sanicula maritima* State Status: Rare
2. SANTA CRUZ TARPLANT Federal Status: Category 1	*Holocarpha macradenia* State Status: Endangered
3. BEACH LAYIA Federal Status: Endangered	*Layia carnosa* State Status: Endangered
4. MENZIES' WALLFLOWER Federal Status: Endangered	*Erysimum menziesii* State Status: Endangered

5. HANGING GARDENS MANZANITA Federal Status: Category 2	*Arctostaphylos edmundsii* var *parifolia* State Status: Rare
6. COASTAL DUNES MILK VETCH Federal Status: Category 1	*Astragalus tener* var*titi* State Status: Endangered
7. CLOVER LUPINE Federal Status: Endangered	*Lupinus tidestromii* var *tidestromii* State Status: Endangered
8. PACIFIC GROVE CLOVER Federal Status: Category 1	*Trifolium polyodon* State Status: Rare
9. MONTEREY CLOVER Federal Status: Category 1	*Trifolium trichocalyx* State Status: Endangered
10. SANTA LUCIA MINT Federal Status: Category 2	*Pogogyne clareana* State Status: Endangered
11. MONTEREY SPINEFLOWER Federal Status: Proposed Endangered	*Chorizanthe pungens* var *pungens* State Status: None
12. ROBUST SPINEFLOWER Federal Status: Proposed Endangered	*Chorizanthe robusta* var *robusta* State Status: None
13. BUTTERWORTH'S BUCKWHEAT Federal Status: Category 2	*Eriogonum butterworthianum* State Status: Rare
14. MONTEREY GILIA Federal Status: Endangered	*Gila tenuifloria* ssp *arenaria* State Status: Threatened
15. HICKMAN'S CINQUEFOIL Federal Status: Category 1	*Potentilla hickmanii* State Status: Endangered
16. SEASIDE BIRD'S-BEAK Federal Status: Category 1	*Cordylanthus rigidus* spp *littoralis* State Status: Endangered
17. DUDLEY'S LOUSEWORT Federal Status: Category 3C	*Pedicularis dudleyi* State Status: Rare
18. MEXICAN FLANNELBUSH Federal Status: Category 2	*Fremontodendron mexicanum* State Status: Rare

NAPA

ANIMALS

1. CALIFORNIA BLACK RAIL Federal Status: Category 1	*Laterallus jamaicensis coturniculus* State Status: Threatened
2. CALIFORNIA CLAPPER RAIL Federal Status: Endangered	*Rallus longirostris obsoletus* State Status: Endangered
3. NORTHERN SPOTTED OWL Federal Status: Threatened	*Strix occidentalis caurina* State Status: None
4. SALT MARSH HARVEST MOUSE Federal Status: Endangered	*Reithrodontomys raviventris* State Status: Endangered
5. CALIFORNIA FRESHWATER SHRIMP Federal Status: Endangered	*Syncaris pacifica* State Status: Endangered
6. VALLEY ELDERBERRY LONGHORN BEETLE Federal Status: Threatened	*Desmocerus californicus dimorphus* State Status: None

PLANTS

1. MASON'S LILAEOPSIS Federal Status: Category 2	*Lilaeopsis masonii* State Status: Rare
2. CALISTOGA ALLOCARYA Federal Status: Category 1	*Plagiobothrys strictus* State Status: Threatened

3. CLARA HUNT'S MILK VETCH — *Astragalus clarianus*
   Federal Status: Category 1 — State Status: Threatened
4. FEW-FLOWERED NAVARRETIA — *Naverretia pauciflora*
   Federal Status: Category 2 — State Status: Threatened
5. TIBURON INDIAN PAINTBRUSH — *Castilleja neglecta*
   Federal Status: Category 1 — State Status: Threatened
6. SOFT BIRD'S-BEAK — *Cordylanthus mollis* ssp *mollis*
   Federal Status: Category 1 — State Status: Rare
7. NAPA BLUE GRASS — *Poa napensis*
   Federal Status: Category 1 — State Status: Endangered

NEVADA

ANIMALS

1. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
2. LAHONTAN CUTTHROAT TROUT — *Oncorhynchus clarki henshawi*
   Federal Status: Threatened — State Status: None
3. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. TRUCKEE BARBERRY — *Mahonia sonnei*
   Federal Status: Endangered — State Status: Endangered
2. SCADDEN FLAT CHECKERBLOOM — *Sidalcea stipularis*
   Federal Status: Category 1 — State Status: Endangered

ORANGE

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
2. LIGHT FOOTED CLAPPER RAIL — *Rallus longiventris levipes*
   Federal Status: Endangered — State Status: Endangered
3. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
4. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
5. BELDING'S SAVANNAH SPARROW — *Passerculus sandwichensis beldingi*
   Federal Status: Category 2 — State Status: Endangered

PLANTS

1. CROWN BEARD — *Verbesina dissita*
   Federal Status: None — State Status: Threatened
2. LAGUNA BEACH DUDLEYA — *Dudleya stolonifera*
   Federal Status: Category 1 — State Status: Threatened
3. SANTA ANA RIVER WOOLLYSTAR — *Eriastrum densifolium* ssp *sanctorum*
   Federal Status: Endangered — State Status: Endangered

4. SALT MARSH BIRD'S-BEAK — *Cordylanthus maritimus* ssp *maritimus*
   Federal Status: Endangered — State Status: Endangered

PLACER

ANIMALS

1. LAHONTAN CUTTHROAT TROUT — *Oncorhynchus clarki henshawi*
   Federal Status: Threatened — State Status: None
2. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. TRUCKEE BARBERRY — *Mahonia sonnei*
   Federal Status: Endangered — State Status: Endangered
2. TAHOE YELLOW CRESS — *Rorippa subumbellata*
   Federal Status: Category 1 — State Status: Endangered
3. BOGGS LAKE HEDGE-HYSSOP — *Gratiola heterosepala*
   Federal Status: Category 2 — State Status: Endangered

PLUMAS

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
3. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
4. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
4. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

No listed plants are recorded from Plumas County

RIVERSIDE

ANIMALS

1. DESERT SLENDER SALAMANDER — *Batrachoseps aridus*
   Federal Status: Endangered — State Status: Endangered
2. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
3. YUMA CLAPPER RAIL — *Rallus longirostris yumanensis*
   Federal Status: Endangered — State Status: Threatened
4. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered

5. ELF OWL — *Micrathene whitneyi*
   Federal Status: None — State Status: Endangered
6. GILA WOODPECKER — *Melanerpes uropygialis*
   Federal Status: None — State Status: Endangered
7. GILDED NORTHERN FLICKER — *Colaptes auratus chrysoides*
   Federal Status: None — State Status: Endangered
8. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
9. ARIZONA BELL'S VIREO — *Vireo bellii arizonae*
   Federal Status: Category 3C — State Status: Endangered
10. LEAST BELL'S VIREO — *Vireo bellii pusillus*
    Federal Status: Endangered — State Status: Endangered
11. RAZORBACK SUCKER — *Xyrauchen texanus*
    Federal Status: Proposed Endangered — State Status: Endangered
12. DESERT PUPFISH — *Cyprinodon macularius*
    Federal Status: Endangered — State Status: Endangered
13. STEPHENS KANGAROO RAT — *Dipodomys stevensi*
    Federal Status: Endangered — State Status: Threatened
14. PENINSULAR BIGHORN SHEEP — *Ovis canadensis cremnobates*
    Federal Status: Category 2 — State Status: Threatened
15. DESERT TORTOISE — *Gopherus agassizii*
    Federal Status: Threatened — State Status: Threatened
16. COACHELLA VALLEY FRINGE TOED LIZARD — *Uma inornata*
    Federal Status: Threatened — State Status: Endangered
17. SOUTHERN RUBBER BOA — *Charina bottae umbratica*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. SAN DIEGO BUTTON CELERY — *Eryngium aristulatum* var *parishii*
   Federal Status: Proposed Endangered — State Status: Endangered
2. PARISH'S DAISY — *Erigeron parishii*
   Federal Status: Proposed Endangered — State Status: None
3. NEVIN'S BARBERRY — *Mahonia nevinii*
   Federal Status: Category 1 — State Status: Endangered
4. PARISH'S MEADOWFOAM — *Limnanthes gracilis* ssp *parishii*
   Federal Status: Category 2 — State Status: Endangered
5. SLENDER-HORNED SPINEFLOWER — *Dodecahema leptoceras*
   Federal Status: Endangered — State Status: Endangered
6. VAIL LAKE CEANOTHUS — *Ceanothus ophiochilus*
   Federal Status: None — State Status: Candidate
7. TAHQUITZ IVESIA — *Ivesia callida*
   Federal Status: Category 3C — State Status: Rare
8. MUNZ'S ONION — *Allium fimbriatum* var *munzii*
   Federal Status: Category 1 — State Status: Threatened
9. THREAD-LEAVED BRODIAEA — *Brodiaea filifolia*
   Federal Status: Category 1 — State Status: Endangered
10. CALIFORNIA ORCUTT GRASS — *Orcuttia california*
    Federal Status: Proposed Endangered — State Status: Endangered

SACRAMENTO

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered
5. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
6. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. MASON'S LILAEOPSIS — *Lilaeopsis masonii*
   Federal Status: Category 2 — State Status: Rare
2. ANTIOCH DUNES EVENING-PRIMROSE — *Oenothera deltoides* ssp *howellii*
   Federal Status: Endangered — State Status: Endangered
3. IONE BUCKWHEAT — *Eriogonum apricum* var *apricum*
   Federal Status: Category 1 — State Status: Endangered
4. BOGGS LAKE HEDGE-HYSSOP — *Gratiola heterosepala*
   Federal Status: Category 2 — State Status: Endangered
5. SLENDER ORCUTT GRASS — *Orcuttia tenuis*
   Federal Status: Category 1 — State Status: Endangered
6. SACRAMENTO ORCUTT GRASS — *Orcuttia viscida*
   Federal Status: Category 1 — State Status: Endangered

SAN BENITO

ANIMALS

1. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
2. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
3. GIANT KANGAROO RAT — *Dipodomys ingens*
   Federal Status: Endangered — State Status: Endangered
4. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
5. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
   Federal Status: Endangered — State Status: Endangered

PLANTS

1. SAN BENITO EVENING-PRIMROSE — *Camissonia benitensis*
   Federal Status: Threatened — State Status: None

SAN BERNARDINO

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. YUMA CLAPPER RAIL — *Rallus longirostris yumanensis*
   Federal Status: Endangered — State Status: Threatened
4. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
5. SAN BERNARDINO ELF OWL — *Micrathene whitneyi*
   Federal Status: None — State Status: Endangered
6. GILA WOODPECKER — *Melanerpes uropygialis*
   Federal Status: None — State Status: Endangered
7. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
8. ARIZONA BELL'S VIREO — *Vireo bellii arizonae*
   Federal Status: Category 3C — State Status: Endangered
9. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
10. MOHAVE TUI CHUB — *Gila bicolor mohavensis*
    Federal Status: Endangered — State Status: Endangered
11. UNARMORED THREESPINE STICKLEBACK — *Gasterosteus aculeatus williamsoni*
    Federal Status: Endangered — State Status: Endangered
12. MOHAVE GROUND SQUIRREL — *Spermophilus mohavensis*
    Federal Status: Category 2 — State Status: Threatened
13. STEPHENS' KANGAROO RAT — *Dipodomys stevensi*
    Federal Status: Endangered — State Status: Threatened
14. DESERT TORTOISE — *Gopherus agassizii*
    Federal Status: Threatened — State Status: Threatened
15. SOUTHERN RUBBER BOA — *Charina bottae umbratica*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. PARISH'S DAISY — *Erigeron parishii*
   Federal Status: Proposed Endangered — State Status: None
2. MOHAVE TARPLANT — *Hemizonia mohavensis*
   Federal Status: Category 1 — State Status: Endangered
3. NEVIN'S BARBERRY — *Mahonia nevinii*
   Federal Status: Category 1 — State Status: Endangered
4. SAN BERNARDINO MTNS. BLADDERPOD — *Lesquerella kingii* ssp *bernardina*
   Federal Status: Proposed Endangered — State Status: None
5. GAMBEL'S WATERCRESS — *Rorippa gambellii*
   Federal Status: Proposed Endangered — State Status: Threatened
6. SLENDER-PETALED THELYPODIUM — *Helypodium stenopetalum*
   Federal Status: Endangered — State Status: Endangered
7. SHORT-LEAVED DUDLEYA — *Dudleya brevifolia*
   Federal Status: Category 1 — State Status: Endangered
8. CUSHENBURY MILK VETCH — *Astragalus albens*
   Federal Status: Proposed Endangered — State Status: None
9. PARISH'S CHECKERBLOOM — *Sidalcea hickmanii* ssp *parishii*
   Federal Status: Category 2 — State Status: Rare

10. BIRD-FOOTED CHECKERBLOOM — *Sidalcea pedata*
    Federal Status: Endangered — State Status: Endangered
11. SLENDER-HORNED SPINEFLOWER — *Dodecahema leptoceras*
    Federal Status: Endangered — State Status: Endangered
12. THORNE'S BUCKWHEAT — *Eriogonum ericifolium* var *thornei*
    Federal Status: Category 2 — State Status: Endangered
13. CUSHENBURY BUCKWHEAT — *Eriogonum ovalifolium* var *vineum*
    Federal Status: Proposed Endangered — State Status: None
14. CUSHENBERRY OXYTHECA — *Oxytheca parishii* var *goodmaniana*
    Federal Status: Proposed Endangered — State Status: None
15. SANTA ANA RIVER WOOLLYSTAR — *Eriastrum densifolium* ssp *sanctorum*
    Federal Status: Endangered — State Status: Endangered
16. THREAD-LEAVED BRODIAEA — *Brodiaea filifolia*
    Federal Status: Category 1 — State Status: Endangered

SAN DIEGO

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
2. LIGHT FOOTED CLAPPER RAIL — *Rallus longiventris levipes*
   Federal Status: Endangered — State Status: Endangered
3. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
4. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
5. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
7. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
8. BELDING'S SAVANNAH SPARROW — *Passerculus sandwichensis beldingi*
   Federal Status: Category 2 — State Status: Endangered
9. MOHAVE TUI CHUB — *Gila bicolor mohavensis*
   Federal Status: Endangered — State Status: Endangered
10. DESERT PUPFISH — *Cyprinodon macularius*
    Federal Status: Endangered — State Status: Endangered
11. UNARMORED THREESPINE STICKLEBACK — *Gasterosteus aculeatus williamsoni*
    Federal Status: Endangered — State Status: Endangered
12. STEPHENS' KANGAROO RAT — *Dipodomys stevensi*
    Federal Status: Endangered — State Status: Threatened
13. PENINSULAR BIGHORN SHEEP — *Ovis canadensis cremnobates*
    Federal Status: Category 2 — State Status: Threatened
14. BAREFOOT BANDED GECKO — *Coleonyx switaki*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. SAN DIEGO BUTTON CELERY — *Eryngium aristulatum* var *parishii*
   Federal Status: Proposed Endangered — State Status: Endangered

2. ENCINITAS BACCHARIS
   Federal Status: Category 1
3. OTAY TARPLANT
   Federal Status: Category 2
4. LAGUNA MNTS. ASTER
   Federal Status: Category 2
5. GANDER'S BUTTERWEED
   Federal Status: Category 2
6. NEVIN'S BARBERRY
   Federal Status: Category 1
7. SLENDER-POD JEWELFLOWER
   Federal Status: Category 2
8. BEACH SPECTACLE POD
   Federal Status: Category 2
9. GAMBEL'S WATERCRESS
   Federal Status: Proposed Endangered
10. CUYAMACA LAKE DOWNINGIA
    Federal Status: Category 1
11. SHORT-LEAVED DUDLEYA
    Federal Status: Category 1
12. COASTAL DUNES MILK VETCH
    Federal Status: Category 1
13. SAN DIEGO THORN MINT
    Federal Status: Category 1
14. WILLOWY MONARDELLA
    Federal Status: Category 2
15. SAN DIEGO MESA MINT
    Federal Status: Endangered
16. OTAY MESA MINT
    Federal Status: Proposed Endangered
17. PARISH'S MEADOWFOAM
    Federal Status: Category 2
18. SLENDER-HORNED SPINEFLOWER
    Federal Status: Endangered
19. ORCUTT'S SPINEFLOWER
    Federal Status: Category 1
20. CUYAMACA LARKSPUR
    Federal Status: Category 2
21. SMALL-LEAVED ROSE
    Federal Status: None
22. BORREGO BEDSTRAW
    Federal Status: Category 2
23. SALT MARSH BIRD'S-BEAK
    Federal Status: Endangered
24. MEXICAN FLANNELBUSH
    Federal Status: Category 2
25. DEHESA NOLINA
    Federal Status: Category 1
26. THREAD-LEAVED BRODIAEA
    Federal Status: Category 1
27. DUNN'S MARIPOSA LILY
    Federal Status: Category 2

Oxytheca parishii var *goodmaniania*
State Status: Endangered
Hemizonia conjugens
State Status: Endangered
Machaeranthera asteroides var *lagunensis*
State Status: Rare
Senecio ganderi
State Status: Rare
Mahonia nevinii
State Status: Endangered
Caulanthus stenocarpus
State Status: Rare
Dithyrea maritima
State Status: Threatened
Rorippa gambellii
State Status: Threatened
Downingia concolor var *brevior*
State Status: Endangered
Dudleya brevifolia
State Status: Endangered
Astragalus tener var *titi*
State Status: Endangered
Acanthomintha ilicifolia
State Status: Endangered
Monardella linoides ssp *viminea*
State Status: Endangered
Pogogyne abramsii
State Status: Endangered
Pogogyne nudiuscula
State Status: Endangered
Limnanthes gracilis ssp *parishii*
State Status: Endangered
Dodecahema leptoceras
State Status: Endangered
Chorizanthe orcuttiana
State Status: Endangered
Delphinium hesperium ssp *cuyamacae*
State Status: Rare
Rosa minutifolia
State Status: Endangered
Galium angustifolium ssp *borregoense*
State Status: Rare
Cordylanthus maritimus ssp *maritimus*
State Status: Endangered
Fremontodendron mexicanum
State Status: Rare
Nolina interrata
State Status: Endangered
Brodiaea filifolia
State Status: Endangered
Calachortus dunnii
State Status: Rare

28. CALIFORNIA ORCUTT GRASS — *Orcuttia california*
Federal Status: Proposed Endangered — State Status: Endangered

SAN FRANCISCO

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
Federal Status: Category 1 — State Status: Threatened
2. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
Federal Status: Endangered — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
Federal Status: None — State Status: Threatened
4. MISSION BLUE BUTTERFLY — *Icaricia acaricia missionensis*
Federal Status: Endangered — State Status: None
5. BAY CHECKERSPOT BUTTERFLY — *Euphydryas editha bayensis*
Federal Status: Threatened — State Status: None

PLANTS

1. ADOBE SANICLE — *Sanicula maritima*
Federal Status: Category 2 — State Status: Rare
2. SAN FRANCISCO LESSINGIA — *Lessingia germanorum*
Federal Status: Category 1 — State Status: Endangered
3. SAN FRANCISCO POPCORNFLOWER — *Plagiobothrys diffusus*
Federal Status: Category 2 — State Status: Endangered
4. MARSH SANDWORT — *Arenaria paludicola*
Federal Status: Proposed Endangered — State Status: Endangered
5. PRESIDIO MANZANITA — *Arctostaphylos hookeri* ssp *ravenii*
Federal Status: Endangered — State Status: Endangered
6. HEARST'S MANZANITA — *Arctostaphylos hookeri* ssp *hearstiorum*
Federal Status: Category 2 — State Status: Endangered
7. MARIN DWARF FLAX — *Hesperolinon congestum*
Federal Status: Category 1 — State Status: Threatened
8. PRESIDIO CLARKIA — *Clarkia franciscana*
Federal Status: Category 1 — State Status: Endangered

SAN JOAQUIN

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
Federal Status: Category 3C — State Status: Threatened
2. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
Federal Status: Category 1 — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
Federal Status: Category 3B — State Status: Endangered
4. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
Federal Status: Endangered — State Status: Threatened
5. GIANT GARTER SNAKE — *Thamnophis gigas*
Federal Status: Category 1 — State Status: Threatened

6. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. DELTA BUTTON CELERY — *Eryngium racemosum*
   Federal Status: Category 2 — State Status: Endangered
2. MASON'S LILAEOPSIS — *Lilaeopsis masonii*
   Federal Status: Category 2 — State Status: Rare
3. LARGE-FLOWERED FIDDLENECK — *Amsinckia grandiflora*
   Federal Status: Endangered — State Status: Endangered
4. GREENE'S TUCTORIA — *Tuctoria greenei*
   Federal Status: Category 1 — State Status: Rare

SAN LUIS OBISPO

ANIMALS

1. CALIFORNIA CONDOR — *Gymnogyps californianus*
   Federal Status: Endangered — State Status: Endangered
2. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
3. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
4. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
5. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
6. MORRO BAY KANGAROO RAT — *Dipodomys heermannimorroensis*
   Federal Status: Endangered — State Status: Endangered
7. GIANT KANGAROO RAT — *Dipodomys ingens*
   Federal Status: Endangered — State Status: Endangered
8. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
9. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
   Federal Status: Endangered — State Status: Endangered

PLANTS

1. ADOBE SANICLE — *Sanicula maritima*
   Federal Status: Category 2 — State Status: Rare
2. CHORRO CREEK BOG THISTLE — *Cirsium fontinale* var *obispoense*
   Federal Status: Proposed Endangered — State Status: Candidate
3. LA GRACIOSA THISTLE — *Cirsium loncholepis*
   Federal Status: Category 1 — State Status: Threatened
4. SURF THISTLE — *Cirsium rhothophilum*
   Federal Status: Category 1 — State Status: Threatened
5. SAN JOAQUIN WOOLY-THREADS — *Lembertia congdonii*
   Federal Status: Endangered — State Status: None
6. CALIFORNIA JEWELFLOWER — *Caulanthus californicus*
   Federal Status: Endangered — State Status: Endangered
7. BEACH SPECTACLE POD — *Dithyrea maritima*
   Federal Status: Category 2 — State Status: Threatened

8. GAMBEL'S WATERCRESS
   Federal Status: Proposed Endangered
   Rorippa gambellii
   State Status: Threatened
9. MARSH SANDWORT
   Federal Status: Proposed Endangered
   Arenaria paludicola
   State Status: Endangered
10. HEARST'S MANZANITA
    Federal Status: Category 2
    Arctostaphylos hookeri ssp *hearstiorum*
    State Status: Endangered
11. MORRO MANZANITA
    Federal Status: Proposed Endangered
    Arctostaphylos morroensis
    State Status: Candidate
12. NIPOMO MESA LUPINE
    Federal Status: Category 1
    Lupinus nipomensis
    State Status: Endangered
13. INDIAN KNOB MOUNTAINBALM
    Federal Status: Proposed Endangered
    Eriodictyon altissimum
    State Status: Endangered
14. CUESTA PASS CHECKERBLOOM
    Federal Status: Category 2
    Sidalcea hickmanii ssp *anomala*
    State Status: Rare
15. PISMO CLARKIA
    Federal Status: Proposed Endangered
    Clarkia speciosa ssp *immaculata*
    State Status: Rare
16. HOOVER'S ERIASTRUM
    Federal Status: Threatened
    Eriastrum hooveri
    State Status: None
17. HEARST'S CEANOTHUS
    Federal Status: Category 2
    Ceanothus hearstiorum
    State Status: Rare
18. MARITIME CEANOTHUS
    Federal Status: Category 2
    Ceanothus maritimus
    State Status: Rare
19. SALT MARSH BIRD'S-BEAK
    Federal Status: Endangered
    Cordylanthus maritimus ssp *maritimus*
    State Status: Endangered
20. DUDLEY'S LOUSEWORT
    Federal Status: Category 3C
    Pedicularis dudleyi
    State Status: Rare
21. DWARF GOLDENSTAR
    Federal Status: Category 2
    Bloomeria humilis
    State Status: Rare
22. CAMATTA CANYON AMOLE
    Federal Status: Category 1
    Chlorogalum purpureum var *reductum*
    State Status: Rare

SAN MATEO

ANIMALS

1. CALIFORNIA BLACK RAIL
   Federal Status: Category 1
   Laterallus jamaicensis coturniculus
   State Status: Threatened
2. CALIFORNIA CLAPPER RAIL
   Federal Status: Endangered
   Rallus longirostris obsoletus
   State Status: Endangered
3. CALIFORNIA LEAST TERN
   Federal Status: Endangered
   Sterna antillarum browni
   State Status: Endangered
4. BANK SWALLOW
   Federal Status: None
   Riparia riparia
   State Status: Threatened
5. NORTHERN (STELLER) SEA LION
   Federal Status: Threatened
   Eumetopias jubatus
   State Status: None
6. SALT MARSH HARVEST MOUSE
   Federal Status: Endangered
   Reithrodontomys raviventris
   State Status: Endangered
7. SAN FRANCISCO GARTER SNAKE
   Federal Status: Endangered
   Thamnophis sirtalis tetrataenia
   State Status: Endangered
8. SAN BRUNO ELFIN BUTTERFLY
   Federal Status: Endangered
   Incisalia mossii bayensis
   State Status: None

9. MISSION BLUE BUTTERFLY — *Icaricia acaricia missionensis*
   Federal Status: Endangered — State Status: None
10. BAY CHECKERSPOT BUTTERFLY — *Euphydryas editha bayensis*
   Federal Status: Threatened — State Status: None

PLANTS

1. FOUNTAIN THISTLE — *Cirsium frontinale* var *fontinale*
   Federal Status: Category 1 — State Status: Endangered
2. SAN MATEO WOOLLY SUNFLOWER — *Eriophyllum latilobum*
   Federal Status: Category 1 — State Status: Endangered
3. WHITE-RAYED PENTACHAETA — *Pentachaeta bellidiflora*
   Federal Status: Category 2 — State Status: Endangered
4. SAN BRUNO MTN. MANZANITA — *Arctostaphylos imbricata* ssp *imbricata*
   Federal Status: Category 1 — State Status: Endangered
5. PACIFIC MANZANITA — *Arctostaphylos pacifica*
   Federal Status: Category 3B — State Status: Endangered
6. SAN MATEO THORN MINT — *Acanthomintha obovata* ssp *duttonii*
   Federal Status: Endangered — State Status: Endangered
7. PT. REYES MEADOWFOAM — *Limnanthes douglasii* ssp *sulphurea*
   Federal Status: Category 2 — State Status: Endangered
8. MARIN DWARF FLAX — *Hesperolinon congestum*
   Federal Status: Category 1 — State Status: Threatened
9. ROBUST SPINEFLOWER — *Chorizanthe robusta* var *robusta*
   Federal Status: Proposed Endangered — State Status: None
10. HICKMAN'S CINQUEFOIL — *Potentilla hickmanii*
   Federal Status: Category 1 — State Status: Endangered
11. DUDLEY'S LOUSEWORT — *Pedicularis dudleyi*
   Federal Status: Category 3C — State Status: Rare
12. SANTA CRUZ CYPRESS — *Cupressus abramsiana*
   Federal Status: Endangered — State Status: Endangered

SANTA BARBARA

ANIMALS

1. CALIFORNIA BROWN PELICAN (NESTING COLONY) — *Pelecanus occidentalis californicus*
   Federal Status: Endangered — State Status: Endangered
2. CALIFORNIA CONDOR — *Gymnogyps californianus*
   Federal Status: Endangered — State Status: Endangered
3. LIGHT FOOTED CLAPPER RAIL — *Rallus longiventris levipes*
   Federal Status: Endangered — State Status: Endangered
4. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
5. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
7. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
8. BELDINGS' SAVANNAH SPARROW — *Passerculus sandwichensis beldingi*
   Federal Status: Category 2 — State Status: Endangered

9. UNARMORED THREESPINE STICKLEBACK		*Gasterosteus aculeatus williamsoni*
Federal Status: Endangered		State Status: Endangered
10. SAN JOAQUIN ANTELOPE SQUIRREL		*Ammospermophilus nelsoni*
Federal Status: Category 2		State Status: Threatened
11. GIANT KANGAROO RAT		*Dipodomys ingens*
Federal Status: Endangered		State Status: Endangered
12. SAN JOAQUIN KIT FOX		*Vulpes macrotis mutica*
Federal Status: Endangered		State Status: Threatened
13. ISLAND FOX		*Urocyon littoralis*
Federal Status: Category 2		State Status: Threatened
14. BLUNT NOSED LEOPARD LIZARD		*Gambelia silus*
Federal Status: Endangered		State Status: Endangered
15. ISLAND NIGHT LIZARD		*Xantusia riversiana*
Federal Status: Threatened		State Status: None

PLANTS

1. LA GRACIOSA THISTLE		*Cirsium loncholepis*
Federal Status: Category 1		State Status: Threatened
2. SURF THISTLE		*Cirsium rhothophilum*
Federal Status: Category 1		State Status: Threatened
3. GAVIOTA TARPLANT		*Hemizonia increscens* ssp *villosa*
Federal Status: Category 1		State Status: Endangered
4. BEACH LAYIA		*Layia carnosa*
Federal Status: Endangered		State Status: Endangered
5. SAN JOAQUIN WOOLY-THREADS		*Lembertia congdonii*
Federal Status: Endangered		State Status: None
6. ISLAND BARBERRY		*Mahonia pinnata* ssp *insularis*
Federal Status: Category 2		State Status: Endangered
7. CALIFORNIA JEWELFLOWER		*Caulanthus californicus*
Federal Status: Endangered		State Status: Endangered
8. BEACH SPECTACLE POD		*Dithyrea maritima*
Federal Status: Category 2		State Status: Threatened
9. SANTA CRUZ ISLAND DUDLEYA		*Dudleya nesiotica*
Federal Status: Category 2		State Status: Rare
10. SANTA BARBARA ISLAND DUDLEYA		*Dudleya traskiae*
Federal Status: Endangered		State Status: Endangered
11. TRASK'S MILK VETCH		*Astragalus traskiae*
Federal Status: Category 2		State Status: Rare
12. SANTA CRUZ ISLAND BIRD'S-FOOT TREFOIL		*Lotus argophyllus* ssp *niveus*
Federal Status: Category 2		State Status: Endangered
13. SANTA YNEZ FALSE-LUPINE		*Thermopsis macrophylla* var *agnina*
Federal Status: Category 2		State Status: Rare
14. LOMPOC YERBA SANTA		*Eriodictyon capitatum*
Federal Status: Category 1		State Status: Rare
15. SANTA CRUZ ISLAND BUSH MALLOW		*Malacothamnus fasciculatus* var *nesioticus*
Federal Status: Category 2		State Status: Endangered
16. PARISH'S CHECKERBLOOM		*Sidalcea hickmanii* ssp *parishii*
Federal Status: Category 2		State Status: Rare
17. SANTA BARBARA ISLAND BUCKWHEAT		*Eriogonum giganteum* var *compactum*
Federal Status: Category 2		State Status: Rare
18. HOOVER'S ERIASTRUM		*Eriastrum hooveri*
Federal Status: Threatened		State Status: None

19. BOX BEDSTRAW — *Galium buxifolium*
    Federal Status: Category 2 — State Status: Rare
20. SALT MARSH BIRD'S-BEAK — *Cordylanthus maritimus* ssp *maritimus*
    Federal Status: Endangered — State Status: Endangered
21. SEASIDE BIRD'S-BEAK — *Cordylanthus rigidus* ssp *littoralis*
    Federal Status: Category 1 — State Status: Endangered

SANTA CLARA

ANIMALS

1. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
2. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered
5. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
6. BAY CHECKERSPOT BUTTERFLY — *Euphydryas editha bayensis*
   Federal Status: Threatened — State Status: None

PLANTS

1. ROCK SANICLE — *Sanicula saxatilis*
   Federal Status: Category 2 — State Status: Rare
2. ROBUST SPINEFLOWER — *Chorizanthe robusta* var *robusta*
   Federal Status: Proposed Endangered — State Status: None

SANTA CRUZ

ANIMALS

1. SANTA CRUZ LONG TOED SALAMANDER — *Ambystoma macrodactylum croceum*
   Federal Status: Endangered — State Status: Endangered
2. MARBLED MURRELET — *Brachyramphus marmoratus*
   Federal Status: Category 2 — State Status: Candidate
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. SAN FRANCISCO GARTER SNAKE — *Thamnophis sirtalis tetrataenia*
   Federal Status: Endangered — State Status: Endangered
5. SMITH'S BLUE BUTTERFLY — *Euphilotes enoptes smithi*
   Federal Status: Endangered — State Status: None

PLANTS

1. SANTA CRUZ TARPLANT — *Holocarpha macradenia*
   Federal Status: Category 1 — State Status: Endangered
2. WHITE-RAYED PENTACHAETA — *Pentachaeta bellidiflora*
   Federal Status: Category 2 — State Status: Endangered

3. SAN FRANCISCO POPCORNFLOWER — *Plagiobothrys diffusus*
   Federal Status: Category 2 — State Status: Endangered
4. SANTA CRUZ WALLFLOWER — *Erysimum teretifolium*
   Federal Status: Proposed Endangered — State Status: Endangered
5. MARSH SANDWORT — *Arenaria paludicola*
   Federal Status: Proposed Endangered — State Status: Endangered
6. MONTEREY SPINEFLOWER — *Chorizanthe pungens* var *pungens*
   Federal Status: Proposed Endangered — State Status: None
7. SCOTTS VALLEY SPINEFLOWER — *Chorizanthe robusta* var *hartwegii*
   Federal Status: Proposed Endangered — State Status: None
8. ROBUST SPINEFLOWER — *Chorizanthe robusta* var *robusta*
   Federal Status: Proposed Endangered — State Status: None
9. SANTA CRUZ CYPRESS — *Cupressus abramsiana*
   Federal Status: Endangered — State Status: Endangered

SHASTA

ANIMALS

1. SHASTA SALAMANDER — *Hydromantes shastae*
   Federal Status: Category 2 — State Status: Threatened
2. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
3. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
4. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
5. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
6. ROUGH SCULPIN — *Cottus asperrimus*
   Federal Status: Category 2 — State Status: Threatened
7. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
8. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened
9. SHASTA CRAYFISH — *Pacifastacus fortis*
   Federal Status: Endangered — State Status: Endangered

PLANTS

1. BOGGS LAKE HEDGE-HYSSOP — Gratiola heterosepala
   Federal Status: Category 2 — State Status: Endangered
2. SLENDER ORCUTT GRASS — *Orcuttia tenuis*
   Federal Status: Category 1 — State Status: Endangered

SIERRA

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered

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2. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
3. GREAT GRAY OWL — *Strix nebulosa*
   Federal Status: None — State Status: Endangered
4. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
5. LAHONTAN CUTTHROAT TROUT — *Oncorhynchus clarki henshawi*
   Federal Status: Threatened — State Status: None
6. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

No listed plants are recorded from Sierra County

SISKIYOU

ANIMALS

1. SISKIYOU MOUNTAINS SALAMANDER — *Plethodon stormi*
   Federal Status: Category 2 — State Status: Threatened
2. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
3. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
4. GREATER SANDHILL CRANE — *Grus canadensis tabida*
   Federal Status: None — State Status: Threatened
5. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
6. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
7. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
8. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
9. LOST RIVER SUCKER — *Deltistes luxatus*
   Federal Status: Endangered — State Status: Endangered
10. SHORTNOSE SUCKER — *Chasmistes brevirostris*
    Federal Status: Endangered — State Status: Endangered
11. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
    Federal Status: Category 2 — State Status: Threatened
12. WOLVERINE — *Gulo gulo*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. ASHLAND THISTLE — *Cirsium ciliolatum*
   Federal Status: Category 3B — State Status: Endangered
2. TRINITY BUCKWHEAT — *Eriogonum alpinum*
   Federal Status: Category 2 — State Status: Endangered
3. YREKA PHLOX — *Phlox hirsuta*
   Federal Status: Category 1 — State Status: Endangered

4. SISKIYOU MARIPOSA LILY — *Calochortus persistens*
   Federal Status: Category 2 — State Status: Rare
5. SLENDER ORCUTT GRASS — *Orcuttia tenuis*
   Federal Status: Category 1 — State Status: Endangered

SOLANO

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
3. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
4. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered
5. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
6. DELTA GREEN GROUND BEETLE — *Elaphrus viridis*
   Federal Status: Threatened — State Status: None
7. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. MASON'S LILAEOPSIS — *Lilaeopsis masonii*
   Federal Status: Category 2 — State Status: Rare
2. SOFT BIRD'S-BEAK — *Cordylanthus mollis* ssp *mollis*
   Federal Status: Category 1 — State Status: Rare
3. COLUSA GRASS — *Neostapfia colusana*
   Federal Status: Category 1 — State Status: Endangered
4. CRAMPTON'S TUCTORIA — *Tuctoria mucronata*
   Federal Status: Endangered — State Status: Endangered

SONOMA

ANIMALS

1. CALIFORNIA BLACK RAIL — *Laterallus jamaicensis coturniculus*
   Federal Status: Category 1 — State Status: Threatened
2. CALIFORNIA CLAPPER RAIL — *Rallus longirostris obsoletus*
   Federal Status: Endangered — State Status: Endangered
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. NORTHERN SPOTTED OWL — *Strix occidentalis caurina*
   Federal Status: Threatened — State Status: None
5. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
6. SALT MARSH HARVEST MOUSE — *Reithrodontomys raviventris*
   Federal Status: Endangered — State Status: Endangered

7. CALIFORNIA FRESHWATER SHRIMP — *Syncaris pacifica*
   Federal Status: Endangered — State Status: Endangered

PLANTS

1. SONOMA SUNSHINE — *Blennosperma bakeri*
   Federal Status: Endangered — State Status: Endangered
2. BURKE'S GOLDFIELDS — *Lasthenia burkei*
   Federal Status: Endangered — State Status: Endangered
3. VINE HILL MANZANITA — *Arctostaphylos densiflora*
   Federal Status: Category 1 — State Status: Endangered
4. BAKER'S MANZANITA — *Arctostaphylos bakeri* ssp *bakeri*
   Federal Status: Category 2 — State Status: Rare
5. CLARA HUNT'S MILK VETCH — *Astragalus clarianus*
   Federal Status: Category 1 — State Status: Threatened
6. SEBASTOPOL MEADOWFOAM — *Limnanthes vinculans*
   Federal Status: Endangered — State Status: Endangered
7. KENWOOD MARSH CHECKERBLOOM — *Sidalcea oregana* ssp *valida*
   Federal Status: Category 1 — State Status: Endangered
8. VINE HILL CLARKIA — *Clarkia imbricata*
   Federal Status: Category 1 — State Status: Endangered
9. SONOMA SPINEFLOWER — *Chorizanthe valida*
   Federal Status: Endangered — State Status: Endangered
10. MANY-FLOWERED NAVARRETIA — *Naverretia plieantha*
    Federal Status: Category 1 — State Status: Endangered
11. BAKER'S LARKSPUR — *Delphinium bakeri*
    Federal Status: Category 1 — State Status: Rare
12. YELLOW LARKSPUR — *Delphinium luteum*
    Federal Status: Category 1 — State Status: Rare
13. PITKIN MARSH INDIAN PAINTBRUSH — *Castilleja uliginosa*
    Federal Status: Category 1 — State Status: Endangered
14. SOFT BIRD'S-BEAK — *Cordylanthus mollis* ssp *mollis*
    Federal Status: Category 1 — State Status: Rare
15. PENNELL'S BIRD'S-BEAK — *Cordylanthus tenuis* ssp *capillaris*
    Federal Status: Category 1 — State Status: Rare
16. WHITE SEDGE — *Carex albida*
    Federal Status: Category 1 — State Status: Endangered
17. RODERICK'S FRITILLARY — *Fritillaria roderickii*
    Federal Status: Category 2 — State Status: Endangered
18. PITKIN MARSH LILY — *Lilium pitkinense*
    Federal Status: Category 1 — State Status: Endangered
19. GEYSER'S DICHANTHELIUM — *Dichanthelium lanuginosum* var *thermale*
    Federal Status: Category 2 — State Status: Endangered
20. NORTH COAST SEMAPHORE GRASS — *Pleuropogon hooverianus*
    Federal Status: Category 2 — State Status: Rare

STANISLAUS

ANIMALS

1. ALEUTIAN CANADA GOOSE — *Branta canadensis leucopareia*
   Federal Status: Threatened — State Status: None

2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. SAN JOAQUIN KIT FOX — *Vulpes macrotis mutica*
   Federal Status: Endangered — State Status: Threatened
5. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. DELTA BUTTON CELERY — *Eryngium racemosum*
   Federal Status: Category 2 — State Status: Endangered
2. HARTWEG'S PSEUDOBAHIA — *Pseudobahia bahiifolia*
   Federal Status: Category 2 — State Status: Endangered
3. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulentus*
   Federal Status: Category 2 — State Status: Endangered
4. COLUSA GRASS — *Neostapfia colusana*
   Federal Status: Category 1 — State Status: Endangered
5. HAIRY ORCUTT GRASS — *Orcuttia pilosa*
   Federal Status: Category 1 — State Status: Endangered
6. SAN JOAQUIN VALLEY ORCUTT GRASS — *Orcuttia inaequalis*
   Federal Status: Category 1 — State Status: Endangered
7. GREENE'S TUCTORIA — *Tuctoria greenei*
   Federal Status: Category 1 — State Status: Rare

SUTTER

ANIMALS

1. ALEUTIAN CANADA GOOSE — *Branta canadensis leucopareia*
   Federal Status: Threatened — State Status: None
2. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
3. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
4. WILLOW FLYCATCHER — *Empidonax traillii*
   Federal Status: None — State Status: Endangered
5. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
6. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
7. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. HARTWEG'S PSEUDOBAHIA — *Pseudobahia bahiifolia*
   Federal Status: Category 2 — State Status: Endangered

TEHAMA

ANIMALS

1. BALD EAGLE	*Haliaeetus leucocephalus*	
Federal Status: Endangered	State Status: Endangered	
2. WESTERN YELLOW BILLED CUCKOO	*Coccyzus americanus occidentalis*	
Federal Status: Category 3B	State Status: Endangered	
3. NORTHERN SPOTTED OWL	*Strix occidentalis caurina*	
Federal Status: Threatened	State Status: None	
4. WILLOW FLYCATCHER	*Empidonax traillii*	
Federal Status: None	State Status: Endangered	
5. BANK SWALLOW	*Riparia riparia*	
Federal Status: None	State Status: Threatened	
6. VALLEY ELDERBERRY LONGHORN BEETLE	*Desmocerus californicus dimorphus*	
Federal Status: Threatened	State Status: None	

PLANTS

1. INDIAN VALLEY BRODIAEA	*Brodiaea coronaria* ssp *rosea*	
Federal Status: Category 2	State Status: Endangered	
2. HAIRY ORCUTT GRASS	*Orcuttia pilosa*	
Federal Status: Category 1	State Status: Endangered	
3. SLENDER ORCUTT GRASS	*Orcuttia tenuis*	
Federal Status: Category 1	State Status: Endangered	
4. GREENE'S TUCTORIA	*Tuctoria greenei*	
Federal Status: Category 1	State Status: Rare	

TRINITY

ANIMALS

1. BALD EAGLE	*Haliaeetus leucocephalus*	
Federal Status: Endangered	State Status: Endangered	
2. NORTHERN SPOTTED OWL	*Strix occidentalis caurina*	
Federal Status: Threatened	State Status: None	
3. SIERRA NEVADA RED FOX	*Vulpes vulpes necator*	
Federal Status: Category 2	State Status: Threatened	
4. WOLVERINE	*Gulo gulo*	
Federal Status: Category 2	State Status: Threatened	
5. TRINITY BRISTLE SNAIL	*Monadenia setosa*	
Federal Status: Category 2	State Status: Threatened	

PLANTS

1. TRINITY BUCKWHEAT	*Eriogonum alpinum*	
Federal Status: Category 2	State Status: Endangered	

TULARE

ANIMALS

1. KERN CANYON SLENDER SALAMANDER	*Batrachoseps simatus*	
Federal Status: Category 2	State Status: Threatened	

2. CALIFORNIA CONDOR Federal Status: Endangered	*Gymnogyps californianus* State Status: Endangered
3. SWAINSON'S HAWK Federal Status: Category 3C	*Buteo swainsoni* State Status: Threatened
4. GREAT GRAY OWL Federal Status: None	*Strix nebulosa* State Status: Endangered
5. WILLOW FLYCATCHER Federal Status: None	*Empidonax traillii* State Status: Endangered
6. LITTLE KERN GOLDEN TROUT Federal Status: Threatened	*Oncorhynchus aguabonita whitei* State Status: None
7. TIPTON KANGAROO RAT Federal Status: Endangered	*Dipodomys nitratoides nitratoides* State Status: Endangered
8. SIERRA NEVADA RED FOX Federal Status: Category 2	*Vulpes vulpes necator* State Status: Threatened
9. SAN JOAQUIN KIT FOX Federal Status: Endangered	*Vulpes macrotis mutica* State Status: Threatened
10. WOLVERINE Federal Status: Category 2	*Gulo gulo* State Status: Threatened
11. CALIFORNIA BIGHORN SHEEP Federal Status: Category 2	*Ovis canadensis californiana* State Status: Threatened
12. BLUNT NOSED LEOPARD LIZARD Federal Status: Endangered	*Gambelia silus* State Status: Endangered

PLANTS

1. TULARE PSEUDOBAHIA Federal Status: Category 1	*Pseudobahia peirsonii* State Status: Endangered
2. CALIFORNIA JEWELFLOWER Federal Status: Endangered	*Caulanthus californicus* State Status: Endangered
3. TWISSELMANN'S NEMACLADUS Federal Status: Category 2	*Nemacladus twisselmannii* State Status: Rare
4. FATHER CROWLEY'S LUPINE Federal Status: Category 2	*Lupinus padre-crowleyi* State Status: Rare
5. SPRINGVILLE CLARKIA Federal Status: Category 1	*Clarkia springvillensis* State Status: Endangered
6. TWISSELMANN'S BUCKWHEAT Federal Status: Category 2	*Eriogonum twisselmannii* State Status: Rare
7. KAWEAH BRODIAEA Federal Status: Category 2	*Brodiaea insignis* State Status: Endangered
8. STRIPED ADOBE LILY Federal Status: Category 2	*Fritillaria striata* State Status: Threatened
9. SAN JOAQUIN VALLEY ORCUTT GRASS Federal Status: Category 1	*Orcuttia inaequalis* State Status: Endangered

TUOLUMNE

ANIMALS

1. GREAT GRAY OWL Federal Status: None	*Strix nebulosa* State Status: Endangered
2. WILLOW FLYCATCHER Federal Status: None	*Empidonax traillii* State Status: Endangered
3. LAHONTAN CUTTHROAT TROUT Federal Status: Threatened	*Oncorhynchus clarki henshawi* State Status: None

4. SIERRA NEVADA RED FOX — *Vulpes vulpes necator*
   Federal Status: Category 2 — State Status: Threatened
5. WOLVERINE — *Gulo gulo*
   Federal Status: Category 2 — State Status: Threatened

PLANTS

1. LAYNE'S BUTTERWEED — *Senecio layneae*
   Federal Status: Category 2 — State Status: Rare
2. SUCCULENT OWL'S-CLOVER — *Orthocarpus campestris* var *succulentus*
   Federal Status: Category 2 — State Status: Endangered
3. CALIFORNIA VERVAIN — *Verbena californica*
   Federal Status: Category 1 — State Status: Candidate
4. YOSEMITE ONION — *Allium yosemitense*
   Federal Status: Category 3C — State Status: Rare
5. CHINESE CAMP BRODIAEA — *Brodiaea pallida*
   Federal Status: Category 1 — State Status: Endangered

VENTURA

ANIMALS

1. CALIFORNIA BROWN PELICAN (NESTING COLONY) — *Pelecanus occidentalis californicus*
   Federal Status: Endangered — State Status: Endangered
2. CALIFORNIA CONDOR — *Gymnogyps californianus*
   Federal Status: Endangered — State Status: Endangered
3. LIGHT FOOTED CLAPPER RAIL — *Rallus longiventris levipes*
   Federal Status: Endangered — State Status: Endangered
4. CALIFORNIA LEAST TERN — *Sterna antillarum browni*
   Federal Status: Endangered — State Status: Endangered
5. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
6. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
7. LEAST BELL'S VIREO — *Vireo bellii pusillus*
   Federal Status: Endangered — State Status: Endangered
8. BELDINGS' SAVANNAH SPARROW — *Passerculus sandwichensis beldingi*
   Federal Status:Category 2 — State Status: Endangered
9. SAN JOAQUIN ANTELOPE SQUIRREL — *Ammospermophilus nelsoni*
   Federal Status: Category 2 — State Status: Threatened
10. ISLAND FOX — *Urocyon littoralis*
    Federal Status: Category 2 — State Status: Threatened
11. SOUTHERN SEA OTTER — *Enhydra lutris nereis*
    Federal Status: Threatened — State Status: None
12. BLUNT NOSED LEOPARD LIZARD — *Gambelia silus*
    Federal Status: Endangered — State Status: Endangered
13. ISLAND NIGHT LIZARD — *Xantusia riversiana*
    Federal Status: Threatened — State Status: None
14. SOUTHERN RUBBER BOA — *Charina bottae umbratica*
    Federal Status: Category 2 — State Status: Threatened

PLANTS

1. SANTA SUSANA TARPLANT — *Hemizonia minthornii*
   Federal Status: Category 2 — State Status: Rare

2. LYON'S PENTACHAETA — *Pentachaeta lyonii*
   Federal Status: Category 1 — State Status: Endangered
3. ISLAND BARBERRY — *Mahonia pinnata* ssp *insularis*
   Federal Status: Category 2 — State Status: Endangered
4. BEACH SPECTACLE POD — *Dithyrea maritima*
   Federal Status: Category 2 — State Status: Threatened
5. SANTA MONICA MTNS. DUDLEYA — *Dudleya cymosa* ssp *marcescens*
   Federal Status: Category 2 — State Status: Rare
6. TRASK'S MILK VETCH — *Astragalus traskiae*
   Federal Status: Category 2 — State Status: Rare
7. CONEJO BUCKWHEAT — *Eriogonum crocatum*
   Federal Status: Category 2 — State Status: Rare
8. SAN NICHOLAS ISLAND BUCKWHEAT — *Eriogonum grande* var *timorum*
   Federal Status: Category 2 — State Status: Endangered
9. SALT MARSH BIRD'S-BEAK — *Cordylanthus maritimus* ssp *maritimus*
   Federal Status: Endangered — State Status: Endangered

YOLO

ANIMALS

1. SWAINSON'S HAWK — *Buteo swainsoni*
   Federal Status: Category 3C — State Status: Threatened
2. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. GIANT GARTER SNAKE — *Thamnophis gigas*
   Federal Status: Category 2 — State Status: Threatened
5. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. FERRIS' BIRD'S-BEAK — *Cordylanthus palmatus*
   Federal Status: Endangered — State Status: Endangered

YUBA

ANIMALS

1. BALD EAGLE — *Haliaeetus leucocephalus*
   Federal Status: Endangered — State Status: Endangered
2. WESTERN YELLOW BILLED CUCKOO — *Coccyzus americanus occidentalis*
   Federal Status: Category 3B — State Status: Endangered
3. BANK SWALLOW — *Riparia riparia*
   Federal Status: None — State Status: Threatened
4. VALLEY ELDERBERRY LONGHORN BEETLE — *Desmocerus californicus dimorphus*
   Federal Status: Threatened — State Status: None

PLANTS

1. HARTWEG'S PSEUDOBAHIA — *Pseudobahia bahiifolia*
   Federal Status: Category 2 — State Status: Endangered

RESOURCE ORGANIZATIONS AND AGENCIES TO CONTACT FOR FURTHER INFORMATION

The following organizations and agencies are working to protect California's endangered wildlife. The list is not intended to be a complete directory of all groups involved in species preservation. The selections were based upon whether the organization or agency has chapters, districts, and centers distributed throughout the State and can provide resources and assistance to school groups at a local level. These local resources, with addresses and telephone numbers, are listed on the following pages.

- **Botanical Gardens**
- **California Department of Fish and Game***
- **California Department of Forestry and Fire Protection**
- **California Department of Parks and Recreation***
- **The California Native Plant Society**
- **Golden State Wildlife Association**
- **The National Audubon Society***
- **The National Park Service**
- **The Nature Conservancy of California***
- **The Sierra Club**
- **United States Fish and Wildlife Service**
- **United States Forest Service***
- **Wildlife Rehabilitation Centers**
- **Zoo Education Programs**
- **Associations and Events**

* Indicates organizations that maintain areas preserving wildlife habitat which are open to visitors and provide potential field trip sites. In addition, the following agencies and institutions, which are not listed in this resource guide, may be able to provide assistance to schools adopting native endangered species:

- **Community Colleges**
- **High School biology Departments**
- **Libraries**
- **Museums**
- **National, Regional, County, City, and Community Parks**
- **Nature Centers**
- **State Colleges and Universities**

Botanical Gardens, Arboreta, Conservatories, and Other Public Gardens*

Alice Keck Park Memorial Gardens
City of Santa Barbara Parks Dept.
P.O. Drawer P-P
402 East Ortega Street
Santa Barbara, CA 93102
805-564-5433

Location: Micheltorena and Santa Barbara Sts.
Type of Garden: Display Garden.

Balboa Park
Park & Recreation Dept.
City of San Diego
Balboa Park Management Center
San Diego, CA 92101
619-236-5984

Location: Laurel St. and 6th Ave.
Type of Garden: Display garden.

Berkeley Rose Garden
City of Berkeley Dept. of Parks.
201 University Ave.
Berkeley, CA 94720
510-644-6530

Location: Euclid Ave. and Bayview Pl.
Type of Garden: Display garden.

Blake Garden
Dept. of Landscape Architecture
College of Environmental Design
University of California at Berkeley
Berkeley, CA 94720
510-524-2449

Location: 70 Rancon Rd.
Type of Garden: Display/demonstration garden.

Botanic Gardens
University of California at Riverside
Riverside, CA 92521
714-787-3706; (FAX) 714-787-4437

Type of Garden: Botanical garden, including native California plants.

C. M. Goethe Arboretum
California State University
6000 J Street
Sacramento, CA 95819
916-278-6494; (FAX) 916-278-5722

Type of Garden: Arboretum, including native California plants.

Descanso Gardens
1418 Descanso Drive
La Canada Flintridge, CA 91011
818-790-5571

Type of Garden: Display garden.

Exposition Park Rose Garden
City of Los Angeles Dept. of Parks
City Hall East, Room 1350, 200 North Main St.
Los Angeles, CA 90012
213-748-4772

Location: 701 State Drive
Type of Garden: Display garden.

Firescapes Demonstration Garden
2411 Stanwood Drive
Santa Barbara, CA 93108
805-564-5702; (FAX) 805-564-5730

Type of Garden: Demonstration garden.
Over 200 different plant specimens selected and landscaped for fire resistance.

Fullerton Arboretum
California State University
P.O. Box 34080
Fullerton, CA 92634
714-773-3579

Type of Garden: Arboretum.

Golden Gate Park
Recreation and Parks Dept.
McLaren Lodge
Fell & Stanyon Sts.
San Francisco, CA 94117
415-661-1316

Type of Garden: Display garden and conservatory.

Goldsmith Seeds, Inc.
2280 Hecker Pass Hwy.
P.O. Box 1349
Gilroy, CA 95021
408-847-7333

Type of Garden: Display garden of a wholesale seed company.

Greystone Park
905 Lomas Vista Drive
Beverly Hills, CA 90210
213-285-2537

Type of Garden: Display garden.

Grigsby Cactus Gardens
2354 Bella Vista Drive
Vista, CA 92084
619-727-1323

Type of Garden: Display garden of retail nursery.

Hakone Japanese Garden
21000 Big Basin Way
Saratoga, CA 95070
408-264-7024

Type of Garden: Japanese garden.

Hortense Miller Garden
3035 Berr Drive
Laguna Beach, CA 92651
714-497-7692

Type of Garden: Display garden, including native California plants.

Kaiser Center Roof Garden
300 Lakeside Drive
Oakland, CA 94612
510-271-6100

Type of Garden: Display garden.

Lakeside Park Trial and Show Gardens and Garden Center
666 Bellevue Avenue
Oakland, CA 94612
510-273-3186

Type of Garden: Display and demonstration gardens.

Lifescape Memorial Garden
Santa Barbara City College
721 Cliff Drive
Santa Barbara, CA 93109-2394
805-965-0581, ext. 244

Type of Garden: Display garden.

Living Desert, The
47900 Portola Avenue
Palm Desert, CA 92260
619-346-5694; (FAX) 619-568-9685

Type of Garden: Botanical garden and wild animal park, illustrating nine distinct desert regions.

Los Angeles State and County Arboretum
301 North Baldwin Avenue
Arcadia, CA 91007
818-446-8251; (FAX) 818-445-1217

Type of Garden: Arboretum.

Lummis Gardens
200 East Avenue 43
Los Angeles, CA 90031
213-222-0546

Type of Garden: Demonstration garden. Model residential water-conservation garden with plantings of California native species and Mediterranean species.

Marin Art and Garden Center
P.O. Box 437
Ross, CA 94957-0437
415-454-5597

Location: Sir Francis Drake Blvd. and Laurel Grove Ave.
Type of Garden: Display garden.

Mendocino Coast Botanical Gardens
18220 North Highway 1, P.O. Box 1143
Fort Bragg, CA 95437
707-964-4352

Type of Garden: Botanical garden.

Micke Grove Park
San Joaquin County Dept. of Parks & Recreation
4520 West Eight Mile Road
Stockton, CA 95209
209-331-7400

Type of Garden: Display garden.

Mildred E. Mathias Botanical Garden
University of California at Los Angeles
405 Hilgard Avenue
Los Angeles, CA 90024-1606
213-825-3620; (FAX) 213-206-3987

Type of Garden: Botanical garden, including native California plants.

Moorten Botanic Garden
1702 South Palm Canyon Drive
Palm Springs, CA 92264
619-327-6555

Type of Garden: Botanical garden, emphasizing the flora of various desert regions.

Morcom Amphitheater of Roses
Oakland Office of Parks and Recreation
1520 Lakeside Drive
Oakland, CA 94612
510-273-3090

Location: 700 Jean Street
Type of Garden: Display garden.

Municipal Rose Garden
Naglee and Dana Avenues
San Jose, CA 95126

Type of Garden: Display garden.

Naiman Tech Center Japanese Garden
9605 Scranton Road
San Diego, CA 92121
619-453-9550

Type of Garden: Display garden.

Overfelt Botanical Gardens
City of San Jose
Dept. of Parks and Recreation
151 West Mission St.
San Jose, CA 95110
408-259-5477

Location: Park Dr. and McKee Rd.
Type of Garden: Botanical garden.

Pageant of Roses Garden
3900 South Workman Mill Road, P.O. Box 110
Whittier, CA 90608
213-699-0921

Type of Garden: Display garden.

Quail Botanical Garden
230 Quail Gardens Drive
Encinitas, CA 92024
619-753-4432

Type of Garden: Botanical garden, including demonstration garden of native plants.

Rancho Santa Ana Botanic Garden
1500 North College Avenue
Claremont, CA 91711-3101
714-625-8767; (FAX) 714-626-7670

Type of Garden: Botanical garden, including native California plants and rare and endangered species.

Regional Parks Botanic Garden
Tilden Park
Berkeley, CA 94708
510-841-8732

Type of Garden: Botanical garden, with native California plants and rare and endangered species.

Rogers Gardens
2301 San Joaquin Hills Road
Corona Del Mar, CA 92625
714-640-5800

Type of Garden: Display garden at retail nursery.

San Mateo Arboretum
P.O. Box 1523
San Mateo, CA 94401
415-342-1629

Location Central Park, Laurel and Fifth Aves..
Type of Garden: Arboretum.

San Mateo Japanese Garden
San Mateo Park and Recreation Dept.
330 West 20th Avenue
San Mateo, CA 94403-1388
415-377-4700

Location: Central Park, Laurel and Fifth Aves.
Type of Garden: Japanese garden.

Santa Barbara Botanic Garden
1212 Mission Canyon Road
Santa Barbara, CA 93105
805-682-4726

Type of Garden: Botanical garden with California native plants including many rare and endangered species.

Saso Herb Garden
14625 Fruitvale Avenue
Saratoga, CA 95070
408-867-0307

Type of Garden: Herb garden.

Sherman Library and Gardens
2647 East Coast Highway
Corona del Mar, CA 92625
714-673-2261

Type of Garden: Display garden.

South Coast Botanic Garden
26300 Crenshaw Blvd.
Palos Verdes Peninsula, CA 90274
213-377-0468

Type of Garden: Botanical garden, including native California plants.

Strybing Arboretum and Botanical Gardens
Ninth Avenue and Lincoln Way
San Francisco, CA 94122
415-661-1316

Type of Garden: Arboretum and botanical garden, including native California plants.

Sunset Magazine Gardens
Willow & Middlefield Roads
Menlo Park, CA 94025
415-321-3600

Type of Garden: Demonstration garden.

University Arboretum
University of California at Davis
Davis, CA 95616
916-752-2498

Type of Garden: Arboretum, including native California plants.

University of California Botanical Garden at Berkeley
Centennial Drive
University of California at Berkeley
Berkeley, CA 94720
510-642-3343

Type of Garden: Botanical garden, with large collection of rare and endangered California natives.

University of California at Irvine Arboretum
University of California at Irvine
Irvine, CA 92717
714-856-5833

Type of Garden: Arboretum, including a collection of Native California flowering bulbs.

University of California, Santa Cruz Arboretum
University of California, Santa Cruz
Santa Cruz, CA 95064
408-427-2998

Location: Bay and High Streets
Type of Garden: Arboretum, including native California plants.

Virginia Robinson Garden
1008 Elden Way
Beverly Hills, CA 91006-2697
213-276-5367

Type of Garden: Display garden.

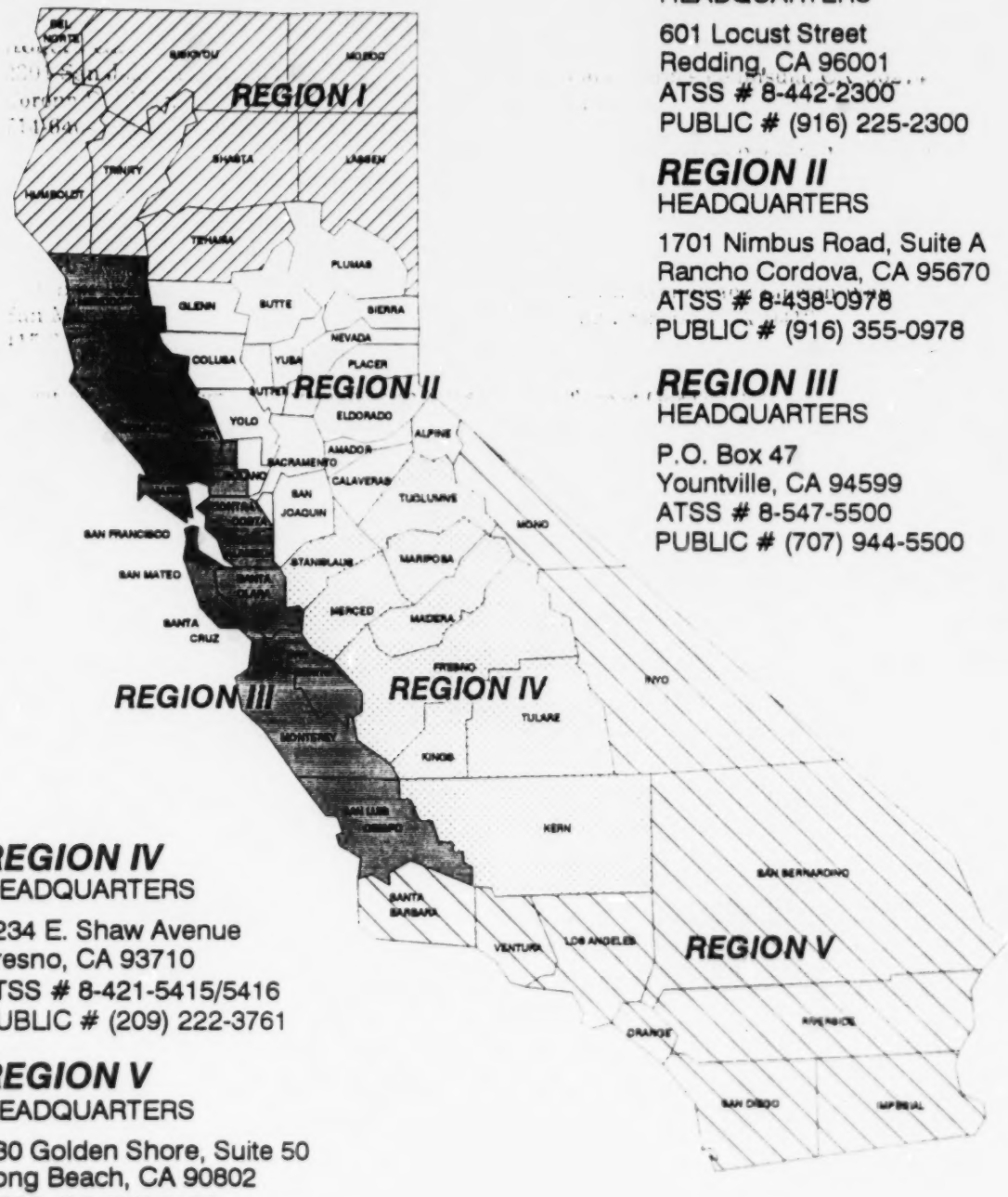
William Joseph McInnes Botanic Garden
Box 9949
Oakland, CA 94613
510-430-2158

Type of Garden: Botanical garden, including native California plants.

* Taken from *North American Horticulture: A Reference Guide* published by the American Horticultural Society.

State of California—Department of Fish and Game

Contact the plant ecologist or natural heritage supervisor for your region.



REGION I
HEADQUARTERS

601 Locust Street
Redding, CA 96001
ATSS # 8-442-2300
PUBLIC # (916) 225-2300

REGION II
HEADQUARTERS

1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
ATSS # 8-438-0978
PUBLIC # (916) 355-0978

REGION III
HEADQUARTERS

P.O. Box 47
Yountville, CA 94599
ATSS # 8-547-5500
PUBLIC # (707) 944-5500

REGION IV
HEADQUARTERS

1234 E. Shaw Avenue
Fresno, CA 93710
ATSS # 8-421-5415/5416
PUBLIC # (209) 222-3761

REGION V
HEADQUARTERS

330 Golden Shore, Suite 50
Long Beach, CA 90802
ATSS # 8-635-5132
PUBLIC # (213) 590-5114

DFG – Wildlife Areas

REGION 1	ACRES
90 ASH CREEK (MOD)	13897
27 BASS HILL (LAS)	3516
54 BATTLE CREEK (SHA)	252
22 BIG LAGOON (HUM)	1800
3 BISCAR (LAS)	548
44 BUTTE VALLEY (SIS)	13328
28 CINDER FLATS (SHA)	720
39 CRESCENT CITY MARSH (DNT)	336
6 DOYLE (LAS)	13988
3 EEL RIVER (HUM)	1432
88 ELK RIVER (HUM)	87
38 EUREKA SLOUGH (HUM)	3
78 FALL RIVER (SHA)	1
89 FAY SLOUGH (HUM)	484
49 GRASS LAKE (SIS)	30
13 HONEY LAKE (LAS)	8486
28 HORSESHOE RANCH (SIS)	5017
4 INDIAN TOM (SIS)	58
37 LAKE EARL (DNT)	5344
74 MAD RIVER SLOUGH (HUM)	547
32 MERRILL'S LANDING (TEH)	298
52 MOUTH OF COTTONWOOD CR. (SHA)	318
50 MUD LAKE (SIS)	39
54 SHASTA VALLEY (SIS)	4857
5 SHEEPY RIDGE (SIS)	320
51 SPANNUS GULCH (SIS)	132
34 SURPRISE VALLEY (MOD)	480
1 TEHAMA (TEH)	48888
90 WILLOW CREEK (LAS)	3087

REGION 2	ACRES
42 ANTELOPE VALLEY (SIE)	4480
57 COLLINS EDDY (SUT/YOL)	58
41 COON HOLLOW (BUT)	721
62 DAUGHERTY HILL (YUB)	2372
88 DECKER ISLAND (SOL)	33
77 FAY CANYON (ALP)	388
30 FEATHER R. (YUB/SUT)	2291
45 FREMONT WEIR (SUT/YOL)	214
14 GRAY LODGE (BUT)	8340
81 HALLELUJAH JCT (LAS/SIE)	3471
53 HEENAN LAKE (ALP)	1853
72 HOPE VALLEY (ALP)	2650
24 LOWER SHERMAN (S. (SAC)	3115
48 MINER SLOUGH (SOL)	37
8 OROVILLE (BUT)	13436
47 PUTAH CREEK (SOL)	989
70 RED LAKE (ALP)	780
71 SACRAMENTO BYPASS (YOL)	380
31 SACRAMENTO R. (GLE/SUT/COL)	2547
86 SMITHNECK CREEK (SIE)	1386
2 SPENCERVILLE (NEV/YUB)	11421
1 SUTTER BYPASS (COL/SUT)	5239
85 UPPER BUTTE BASIN (BUT/GLE)	7035
83 WARNER VALLEY (PLU)	989
43 WHITE SLOUGH (SUI)	880

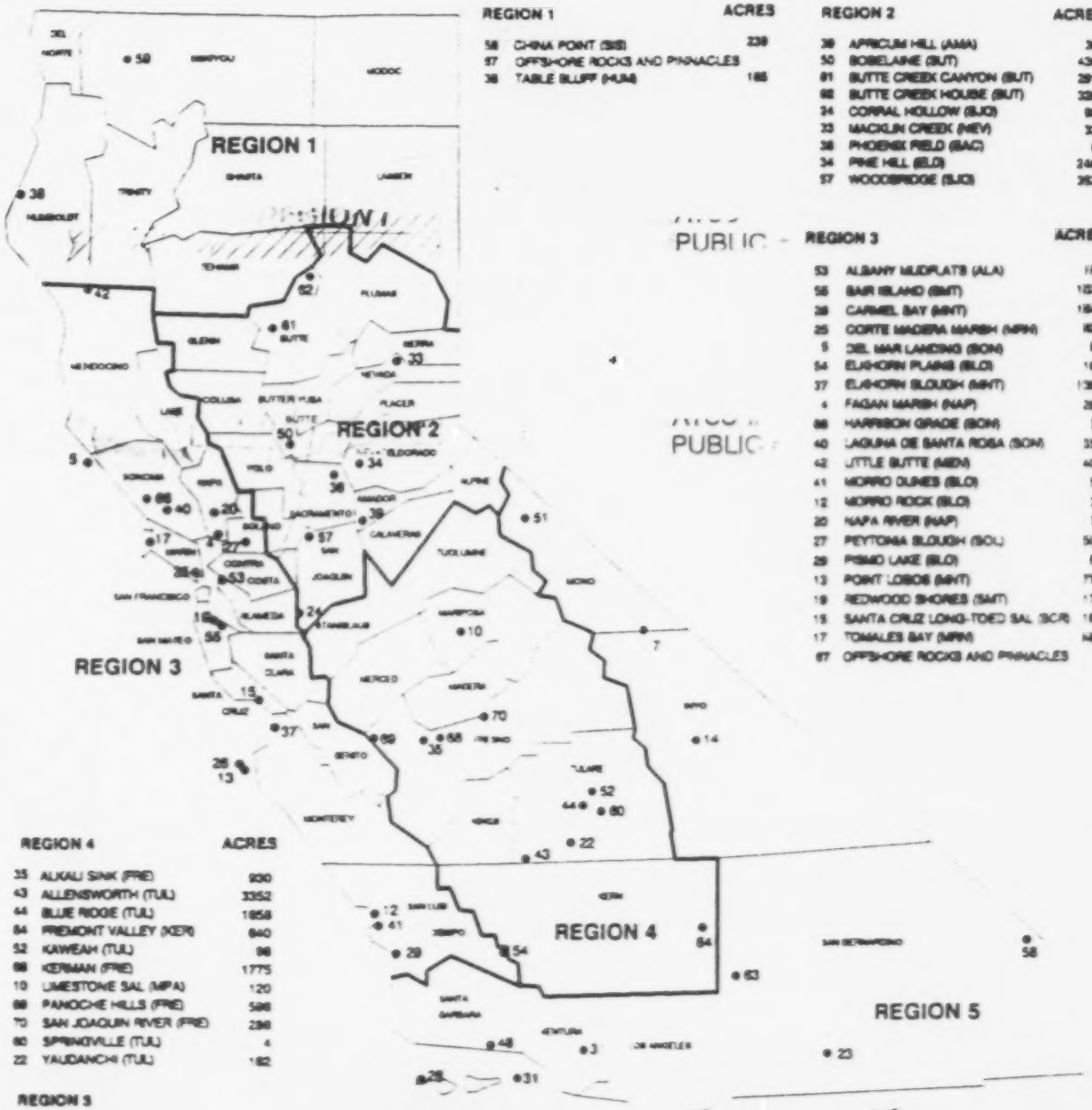
REGION 3	ACRES
23 BIG SANDY (MNT/SLO)	812
98 CACHE CREEK (LAK)	1519
15 GRIZZLY ISLAND (SOL)	12220
35 HILL SLOUGH (SOL)	1786
75 INDIAN VALLEY (LAK)	5120
61 LAKE SONOMA (SON)	9000
82 LOS RANCHOS (SLO)	2
83 MORO COJO (MNT)	28
57 MOSS LANDING (MNT)	958
25 NAPA-SON. MARSHES NAP/SOL	2382
36 PETALUMA MARSH (MRN/SON)	2566
58 POINT EDITH (CCA)	781
20 SALINAS (MNT)	518
58 SAN LUIS OBISPO (SLO)	450
21 SAN PABLO BAY (MRN)	11117
59 WATSONVILLE SCR)	139

REGION 4	ACRES
29 COTTONWOOD CREEK (MER/SCL)	9316
64 KINSMAN FLAT (MAD)	450
10 LITTLE PANOCHE RES. (FRE)	928
16 LOS BANOS (MER)	5588
17 MENDOTA (FRE)	11802
11 O'NEILL FOREBAY (MER)	700
12 SAN LUIS RESERVOIR (MER/SCL)	988
79 SOUTH FORK (KRN)	1217
19 VOLTA (MER)	3003

REGION 5	ACRES
40 CAMP CADY (SBD)	1548
18 IMPERIAL (IMP)	8134
76 KELSO PEAK & OLD DAD MTNS. (SBD)	*
75 MARBLE MNTS. (SBD)	*
48 SAN JACINTO (RIV)	5834
55 SANTA ROSA (RIV)	25466
33 SUNKAR/LITTLE ANTELOPE (MNO)	11887

*Cooperatively managed with BLM for bighorn sheep hunting boundaries and 3 excluded from department total

DFG – Ecological Reserves



REGION 1		ACRES
58	CHINA POINT (SIS)	239
57	OFFSHORE ROCKS AND PINNACLES	
38	TABLE BLUFF (HUM)	186

REGION 2		ACRES
39	APRICUM HILL (AMA)	36
50	BOBELAINE (BUT)	430
61	BUTTE CREEK CANYON (BUT)	291
62	BUTTE CREEK HOUSE (BUT)	320
34	CORRAL HOLLOW (SJO)	82
33	MACKLIN CREEK (NEV)	32
36	PHOENIX FIELD (BAC)	8
34	PINE HILL (ELD)	240
57	WOODBRIDGE (SJO)	353

REGION 3		ACRES
53	ALBANY MUDFLATS (ALA)	180
56	BAIR ISLAND (SMT)	1539
28	CARMEL BAY (MNT)	1842
25	CORTE MADERA MARSH (MRN)	821
9	DEL MAR LANDING (SON)	80
54	EUHORN PLAINS (SLO)	160
37	EUHORN SLOUGH (MNT)	1368
4	FAGAN MARSH (NAP)	282
66	HARRISON GRADE (SON)	32
40	LAGUNA DE SANTA ROSA (SON)	357
42	LITTLE BUTTE (MEN)	402
41	MORRO DUNES (SLO)	50
12	MORRO ROCK (SLO)	30
20	NAPA RIVER (NAP)	73
27	PEYTONIA SLOUGH (SOL)	508
29	PISMO LAKE (SLO)	88
13	POINT LOBOS (MNT)	775
19	REDWOOD SHORES (SMT)	172
15	SANTA CRUZ LONG-TOED SAL. (SCR)	180
17	TOMALES BAY (MRN)	482
67	OFFSHORE ROCKS AND PINNACLES	

REGION 4		ACRES
35	ALKALI SINK (FRE)	930
43	ALLENSWORTH (TUL)	3352
44	BLUE RIDGE (TUL)	1858
64	FREMONT VALLEY (KER)	640
52	KAWEAH (TUL)	98
66	KERMAN (FRE)	1775
10	LIMESTONE SAL. (MPA)	120
69	PANOCHE HILLS (FRE)	588
70	SAN JOAQUIN RIVER (FRE)	286
60	SPRINGVILLE (TUL)	4
22	YAUDANCHI (TUL)	182

REGION 5					
21	ABALONE COVE (LAX)	124	8	HEISLER PARK (ORA)	30
31	ANACAPA ISLAND (VEN)	9113	9	HODEN PALMS (RIV)	136
23	BALDWIN LAKE (SBD)	140	49	LAKE MATHEWS (RIV)	2585
47	BATIQUITOS LAGOON (SDG)	134	11	MAGNESIA SPRING (RIV)	1285
58	BLUE SKY (SDG)	317	58	PUTE CREEK (SBD)	139
1	BOLSA CHICA (ORA)	536	14	SALINE VALLEY (INY)	520
2	BUENA VISTA LAGOON (SDG)	196	18	SAN DIEGOLA JOLLA (SDG)	514
51	BY DAY CREEK (MNO)	480	65	SAN DIEGUITO (SDG)	107
30	CARRIZO CANYON (RIV)	1021	48	SAN ELIJO (SDG)	804
45	COACHELLA VALLEY (RIV)	845	28	SAN MIGUEL ISLAND (SBA)	17833
3	COLDWATER CANYON (VEN)	59	32	SANTA BARBARA SL. (SBA)	7822
6	FARNSWORTH BANK (LAX)	24	18	UPPER NEWPORT BAY (ORA)	751
7	FISH SLOUGH (INY/MNO)	188	63	W. MOHAVE DESERT (SBD)	7074
49	GOLETA SLOUGH (SBA)	344	67	OFFSHORE ROCKS AND PINNACLES	

California Department of Forestry and Fire Protection—Demonstration State Forests

The California Department of Forestry and Fire Protection (CDF) manages eight Demonstration State Forests totalling 71,148 acres. Jackson, Latour, Mountain Home, Boggs Mountain, and Soquel Demonstration State Forests are commercial forestlands managed for timber production, recreation, and demonstration of good forest management practices. Las Posadas, Mount Zion, and Ellen Pickett State Forests were acquired as gifts and are primarily used for administrative sites.

The State Forests harvest about 30 million board feet of timber annually, enough to build 3,000 single family homes! State Forest timber sale receipts totalled about $11 million in 1991/92 FY. This revenue is used by CDF to operate the State Forest system, the Urban Forestry Program, and Wood Energy Program. Timber sale revenue also provides funding for the California Forest Improvement Program (CFIP). CFIP provides grants and loans to qualifying small private forestland owners for reforestation, fish and wildlife habitat improvement, and timber stand improvement. In this way, timber sales help to improve the State's forest resources.

Public recreational opportunities abound on State Forests and demonstrate that recreation is compatible with forest management. Visitors are welcome to State Forests. There are 161 primitive campsites, and 24 picnic units on the forests. There were 115,000 visitor use days in 1991.

For additional information, please contact the forest manager.

Hal Slack
JACKSON STATE FOREST
802 North Main
Fort Bragg, CA 945437
(707) 964-5674

Scott McDonald
LATOUR STATE FOREST
1000 Cypress Avenue
Redding, CA 96001
(916) 225-2435

Thomas Sutfin
SOQUEL STATE FOREST
4750 Old San Jose Road
Soquel, CA 95073
(408) 475-8643

Steve Sayers
BOGGS MOUNTAIN STATE FOREST
P.O. Box 839
Cobb, CA 95426
(707) 928-4378

Dave Dulitz
MOUNTAIN HOME STATE FOREST
P.O. Box 517
Springville, CA 93265
(209) 539-2321 (summer)
(209) 539-2855 (winter)

Gary Brittner
STATE FOREST PROGRAM
1416 Ninth Street
Sacramento, CA 95814
(916) 653-9418

California Department of Parks and Recreation

Educational opportunities abound in the nearly 300 parks that make up California's State Park System. To find out about nearby parks and endangered species of plants and animals within the parks, contact the District or Regional office nearest to you. Some species depend on parks for their survival. For example, the only known population of riparian brush rabbits exists at Caswell Memorial State Park. The Least Tern natural preserve at Huntington State Beach provides nesting sites for the California least tern. The Antioch dunes evening-primrose, found at Brannan Island State Recreation Area, is yet another example of the preservation role of our park system.

To order the "Guide to California State Parks" and other educational materials, write or call: Publications Section, California Department of Parks and Recreation, P.O. Box 942896, Sacramento, CA 94296-0001, (916) 322-7000.

Many state parks have cooperating or interpretive associations that work to raise the funds for environmental education materials. Such organizations could be of value for your project. Inquire whether the park you contact has an association, and how your school could make contact with it.

REGION AND DISTRICT OFFICE ADDRESSES

NORTHERN REGION

Region 1 Headquarters
396 Tesconi Court
Santa Rosa, CA 95401
Phone: (707) 576-2185

Cascade District
c/o Shasta State Historic Park
Mail: P.O. Box 2430
Shasta, CA 96087
Phone: (916) 225-2065

Clear Lake District
Mail: 5300 Soda Bay Road
Kelseyville, CA 95451
Phone: (707) 279-2267

Eel River District
c/o Homboldt Redwoods State Park
Mail: P.O. Box 100
Weott, CA 95571
Phone: (707) 946-2311

Klamath District
Mail: 600-A Clark Street
Eureka, CA 95501
Phone: (707) 445-6547

Lake Oroville District
c/o Lake Oroville State Recreation Area
Mail: 400 Glen Drive
Oroville, CA 95966
Phone: (916) 538-2200

Marin District
Mail: 1455A East Francisco Boulevard
San Rafael, CA 94901
Phone: (415) 456-1286

Mendocino District
Mail: P.O. Box 440
Mendocino, CA 95460
Phone: (707) 937-5804

Napa District
Mail: 3801 St. Helena/Highway North
Calistoga, CA 94515
Phone: (707) 942-5370

Russian River District
Mail: P.O. Box 123
Duncans Mills, CA 95430
Phone: (707) 865-2391

Sonoma District
Mail: 20 East Spain Street
Sonoma, CA 95476
Phone: (707) 938-1519

Upper Valley District
Mail: 525 The Esplanade
Chico, CA 95926-3996
Phone: (916) 895-4303

CENTRAL COAST REGION

Region 2 Headquarters
2211 Garden Road
Monterey, CA 93940
Phone: (408) 649-2840

Big Sur District
Mail: Pfeiffer Big Sur State Park, No. 1
Big Sur, CA 93920
Phone: (408) 667-2316

Channel Coast District
Mail: 24 E. Main Street
Ventura, CA 93001
Phone: (805) 6544611

Diablo District
Mail: 4180 Treat Boulevard, Suite D
Concord, CA 94518
Phone: (415) 687-1800

Gavilan District
c/o San Juan Bautista State Historic Park
Mail: P.O. Box 1110
San Juan Bautista, CA 95045
Phone: (408) 6234526

Gaviota District
Mail: No. 10 Refugio Beach Road
Goleta, CA 93117
Phone: (805) 968-3294

La Purisima Mission District
Mail: 2295 Purisima Road
Lompoc, CA 93436
Phone: (805) 733-3713

Monterey District
Mail: 20 Custom House Plaza
Monterey, CA 93940
Phone: 408) 649-2836

Pajaro Coast District
Mail: 101 Madeline Drive
Aptos, CA 95003
Phone: (408) 688-3241

San Francisco District
Mail: P.O. Box 34159
San Francisco, CA 94134
Phone: (415) 5574069

San Luis Obispo Coast District
Mail: 3220 5. Higuera Street, Suite 311
San Luis Obispo, CA 93401
Phone: (805) 549-3312

San Mateo Coast District
Mail: 95 Kelly Avenue
Half Moon Bay, CA 94019
Phone: (415) 726b238

Santa Cruz Mountains District
Mail: 101 N. Big Trees Park Road
Felton, CA 95018
Phone: (408) 335-9145

INLAND REGION

Region 3 Headquarters
P.O. Box 1450
Lodi, C A 95241-1450
Phone: (209) 333-6901

American River District
c/o Folsom Lake State Recreation Area
Mail: 7806 Folsom-Auburn Road
Folsom, CA 95630
Phone: (916) 988-0205

Calaveras District
c/o Calaveras Big Trees State Park
Mail: P.O. Box 120
Arnold, CA 05223
Phone: (209) 795-2334

Columbia District
c/o Columbia State Historic Park
Mail: P.O. Box 151
Columbia, CA 95310
Phone: (209) 532-0150

Delta District
c/o Brannan Island State Recreation Area
Mail: 17645 State Highway 160
Rio Vista, CA 94571
Phone: (916) 777-6671

Four Rivers District
Mail: 31426 West Highway 152
Santa Nella, CA 95322
Phone: (209) 826-1196

Gold Mines District
Mail: 10556 East Empire Street
Grass Valley, CA 95945
Phone: (916) 273-3884

Sacramento District
Mail: 111 "I" Street
Sacramento, CA 95814
Phone: (916) 445-7373

San Joaquin Valley District
Mail: P.O. Box 205
5290 Millerton Road
Friant, CA 93626
Phone: (209) 822-2332

Sierra District
Mail: P.O. Drawer D
Tahoma, CA 95733
Phone: (916) 525-7232

SOUTHERN REGION

Region 4 Headquarters
1333 Camino Del Rio South, Suite 200
San Diego, CA 92108
Phone: (619) 237-7411

Anza-Borrego District
c/o Anza-Borrego Desert State Park
Mail: P.O. Box 299
Borrego Springs, CA 92004
Phone: (619) 767-5311

Chino Hills District
Mail: 1879 Jackson Street
Riverside, CA 92504
Phone: (714) 780-6

Frontera District
Mail: 3990 Old Town Avenue, Suite 300-C
San Diego, CA 92110
Phone: (619) 237-6766

High Desert District
Mail: 4555 West Avenue G
Lancaster, CA 93536
Phone: (805) 942-0662

Los Lagos District
Mail: 17801 Lake Perris Drive
Perris, CA 92370
Phone: (714) 657-676

Mojave River District
Mail: Star Route 7A
Hesperia, CA 92345
Phone: (619) 389-2281

Montane District
c/o Cuyamaca Rancho State Park
Mail: 12551 Highway 79
Descanso, CA 92016
Phone: (619) 765-0755

Mount San Jacinto District
c/o Mount San Jacinto State Park
Mail: P.O. Box 308
Idyllwild, CA 92349
Phone: (714) 659-2607

Orange Coast District
Mail: 18331 Enterprise Lane
Huntington Beach, CA 92648
Phone: (714) 848-1566

Pendleton Coast District
Mail: 3030 Avenida del Presidente
San Clemente, CA 92672
Phone: (714) 492-0802

Picacho District
c/o Picacho State Recreation Area
Mail: P.O. Box 848
Winterhaven, CA 92283
Phone: (619) 339-5110

Salton Sea District
c/o Salton Sea State Recreation Area
Mail: P.O. Box 3166
North Shore, CA 92254-0977
Phone: (619) 393-3059

San Diego Coast District
Mail: 2680 Carlsbad Boulevard
Carlsbad, CA 92008
Phone: (619) 729-8947

Santa Monica Mountains District
Mail: 2860-A Camino Dos Rios
Newbury Park, CA 91320
Phone: (818) 706-1310

OFF-HIGHWAY MOTOR VEHICLE RECREATION DIVISION

Region 5 Headquarters
P.O. Box 942896
Sacramento, CA 94296-0001
Phone: (916) 322-9619

Hollister Hills District
Mail: 7800 Cienega Road
Hollister, CA 95023
Phone: (408) 637-8186

Hungry Valley District
Mail: P.O. Box 1360
Lebec, CA 93242-1360
Phone: (805) 248~447

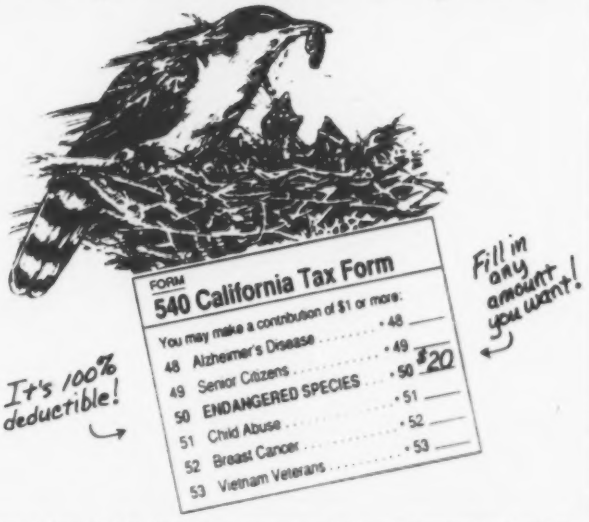
Ocotillo Wells District
Mail: P.O. Box 360
Borrego Springs, CA 92004
Phone: (619) 767-5391

Pismo Dunes District
Mail: 576 Camino Mercado
Arroyo Grande, CA 93420
Phone: (805) 473-0255

SAN SIMEON REGION

Region 6 Headquarters
Hearst San Simeon State
Historical Monument
750 Hearst Castle Road
San Simeon, CA 93452-0040
Phone: (805) 927-2020

We can use our Tax Returns to help Endangered Species.

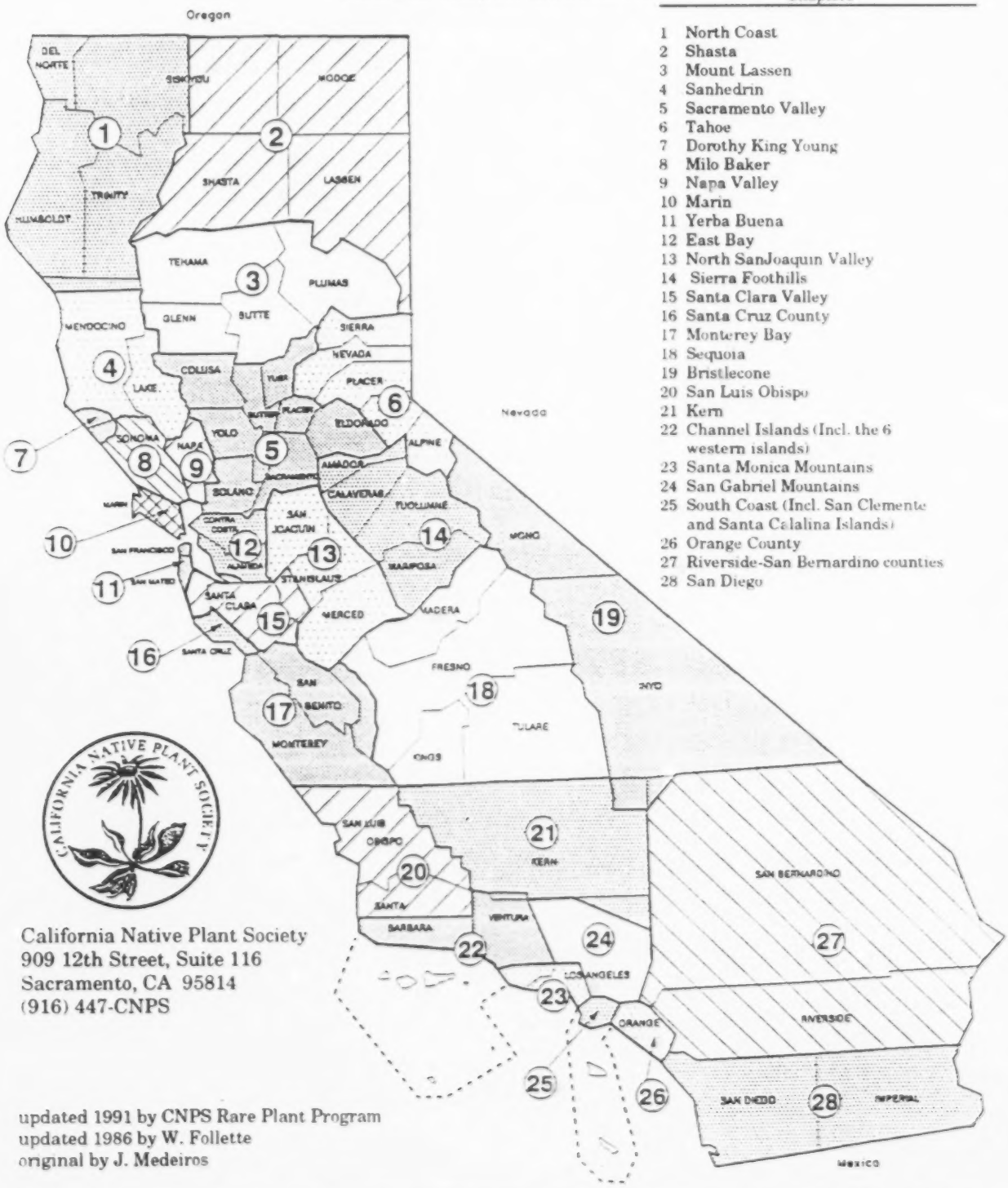

FORM
540 California Tax Form
You may make a contribution of $1 or more:
48 Alzheimer's Disease ... • 48
49 Senior Citizens ... • 49
50 ENDANGERED SPECIES ... • 50 $20
51 Child Abuse ... • 51
52 Breast Cancer ... • 52
53 Vietnam Veterans ... • 53
It's 100% deductible!
Fill in any amount you want!

Use "Line 50"! California has more than 284 native animal and plant species that are fighting for survival. We urge you to help them win that fight with a tax-deductable contribution on "Line 50" of your State Tax Return. Please help if you can. Even a little contribution helps a lot!

*Pictured here: **Yellow-Billed Cuckoo** (one of 284 California species at risk!)*

California Native Plant Society

General Chapter Boundaries



Chapters

1 North Coast
2 Shasta
3 Mount Lassen
4 Sanhedrin
5 Sacramento Valley
6 Tahoe
7 Dorothy King Young
8 Milo Baker
9 Napa Valley
10 Marin
11 Yerba Buena
12 East Bay
13 North SanJoaquin Valley
14 Sierra Foothills
15 Santa Clara Valley
16 Santa Cruz County
17 Monterey Bay
18 Sequoia
19 Bristlecone
20 San Luis Obispo
21 Kern
22 Channel Islands (Incl. the 6 western islands)
23 Santa Monica Mountains
24 San Gabriel Mountains
25 South Coast (Incl. San Clemente and Santa Catalina Islands)
26 Orange County
27 Riverside-San Bernardino counties
28 San Diego

California Native Plant Society
909 12th Street, Suite 116
Sacramento, CA 95814
(916) 447-CNPS

updated 1991 by CNPS Rare Plant Program
updated 1986 by W. Follette
original by J. Medeiros

BEST COPY AVAILABLE

The National Audubon Society

The Audubon Society's mission is to protect wildlife and wildlife habitat. Together with more than 600,000 members and an extensive chapter network in the United States and Latin America, professional staff of scientists, lobbyists, lawyers, policy analysts, and educators are fighting to save threatened ecosystems and to restore the natural balance that is critical to the quality of life on the planet.

NATIONAL AUDUBON SOCIETY CALIFORNIA OFFICES:

National Audubon Society
Western Regional Office
555 Audubon Place
Sacramento, CA 95825
(916) 481-5332

Richardson Bay Audubon Center and Sanctuary
George Whittell Education Center
376 Greenwood Beach Road
Tiburon, CA 94920
(415) 388-2524
FAX (415) 388-0717

National Audubon Society
Education Division
200 Culver Blvd.
Playa del Rey, CA 90293
(310) 574-2799
FAX (310) 574-2797

Starr Ranch Audubon Sanctuary
P.O. Box 967
Trabuco Canyon, CA 92678
(714) 858-0309

NATIONAL AUDUBON SOCIETY CHAPTERS:

Please direct correspondence to the following addresses and note "Attn: Education Chair."

Altacal Audubon Society
Box 3671
Chico, CA 95927

Buena Vista Audubon Society
P.O. Box 480
Oceanside, CA 92049-0480

Central Sierra Audubon Society
P.O. Box 3018
Sonora, CA 95370

Conejo Valley Audubon Society
P.O. Box 4782
Thousand Oaks, CA 91350

Eagle Lake Audubon Society
P.O. Box 1502
Susanville, CA 96130

Eastern Sierra Audubon Society
P.O. Box 624
Bishop, CA 93514

El Dorado Audubon Society
P.O. Box 90713
Long Beach, CA 90809

Fresno Audubon Society
P.O. Box 9324
Fresno, CA 93991

Golden Gate Audubon Society
2530 San Pablo Ave.
Berkeley, CA 94702

Kern Audubon Society
P.O. Box 3581
Bakersfield, CA 93305-3581

Kerncrest Audubon Society
P.O. Box 984
Ridgecrest, CA 93556

La Purisima Audubon Society
P.O. Box 2045
Lompoc, CA 93436

Laguna Hills Audubon Society
P.O. Box 2652
Laguna Hills, CA 92654

Lake Almanor Audubon Society
1233 Lassen View
Lake Almanor, CA 96137

Los Angeles Audubon Society
7377 Santa Monica Blvd.
West Hollywood, CA 90046

Los Padres Audubon Society
P.O. Box 1631
Santa Maria, CA 93456

Madrone Audubon Society
P.O. Box 1911
Santa Rosa, CA 95402

Marble Mountain Audubon Society
P.O. Box 820
Etna, CA 96027

Marin Audubon Society
P.O. Box 599
Mill Valley, CA 94942

Mendocino Coast Audubon Society
130 Dana
Ft. Bragg, CA 95437

Monterey Peninsula Audubon Society
P.O. Box 5656
Carmel, CA 93921

Morro Coast Audubon Society
P.O. Box 160
Morro Bay, CA 93442

Mount Diablo Audubon Society
P.O. Box 53
Walnut Creek, CA 94596

Mt. Shasta Audubon Society
P.O. 530
Mt. Shasta, CA 96067

Napa-Solano Audubon Society
P.O. Box 5150
Vallejo, CA 94591

North Cuesta Audubon Society
7365 Valle
Atascadero, CA 93422

Ohlone Audubon Society
1819 Foxswallow Cr.
Pleasanton, CA 94566

Palomar Audubon Society
P.O. Box 2483
Escondido, CA 92033

Palos Verdes Peninsula Audubon Society
P.O. Box 2582
Palos Verdes, CA 90274

Pasadena Audubon Society
1750 N. Altadena Dr.
Pasadena, CA 91107

Peregrine Audubon Society
P.O. Box 311
Ukiah, CA 95482

Plumas Audubon Society
P.O. Box 3877
Quincy, CA 95971

Pomona Valley Audubon Society
Joint Science Dept.
Claremont Colleges
Claremont, CA 91711

Redbud Audubon Society
P.O. Box G
Clearlake, CA 95422

Redwood Region Audubon Society
P.O. Box 1054
Eureka, CA 95501-1054

Sacramento Audubon Society
2981-B Linden Lane
Carmichael, CA 95608

San Bernardino Valley Audubon Society
c/o San Bernardino County Museum
2024 Orange Tree Lane
San Bernardino, CA 92374

San Diego Audubon Society
4901 Morena Blvd. Suite 703
San Diego, CA 92117

San Fernando Valley Audubon Society
P.O. Box 2504
Van Nuys, CA 91404

San Joaquin Audubon Society
3749 14 Mile Drive
Stockton, CA 95219

Santa Barbara Audubon Society
5679 Hollister Ave.
Goleta, CA 93117

Santa Clara Valley Audubon Society
22221 McClellan Road
Cupertino, CA 95014

Santa Monica Bay Audubon Society
P.O. Box 35
Pacific Palisades, CA 90272

Sea & Sage Audubon Society
P.O. Box 25
Santa Ana, CA 92702

Sequoia Audubon Society
30 West 39th Ave.
San Mateo, CA 94403-4561

Sierra Foothills Audubon Society
P.O. Box 4978
Auburn, CA 95603

South Coast Audubon Society
P.O. Box 4059
San Clemente, CA 92674

Stanislaus Audubon Society
P.O. Box 4251
Modesto, CA 95352

Sutter Buttes Audubon Society
P.O. Box 591
Yuba City, CA 95992

Tulare County Audubon Society
P.O. Box 4402
Visalia, CA 93277

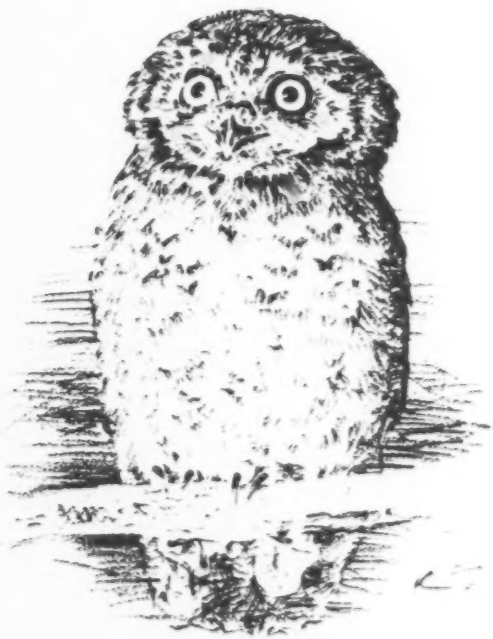
Ventura Audubon Society
P.O. Box 24189
Ventura, CA 93002

Whittier Audubon Society
P.O. Box 4751
Whittier, CA 90607

Wintu Audubon Society
P.O. Box 4533
Redding, CA 96002

Yolo Audubon Society
P.O. Box 886
Davis, CA 95616

Yosemite Area Audubon Society
4514 Varain Rd.
Mariposa, CA 95338



National Park Service

Below are the general numbers and addresses for those National Park Service areas located in California which manage populations of Federal threatened and endangered species of fauna and flora. To locate individuals responsible for development and implementation of education programs at each park, ask for the Division of Interpretation. Those parks with an (*) have known education programs which in part address threatened and endangered species.

Cabrillo National Monument
P.O. Box 6670
San Diego, CA 92166
(619) 557-5450

Channel Island National Park*
1901 Spinnaker
Ventura, CA 93001
(805) 658-5700

Death Valley National Monument
Death Valley, CA 92328
(619) 786-2331

Golden Gate National Recreation Area*
Building 201 Fort Mason
San Francisco, CA 94129
(415) 556-2920

Joshua Tree National Monument
74485 National Monument Drive
Twentynine Palms, CA 92277
(619) 367-7511

Lava Beds National Monument
P.O. Box 867
Tulelake, CA 96134
(916) 667-2282

Lassen Volcanic National Park
P.O. Box 100
Mineral, CA 96093
(916) 595-4444

Muir Woods National Monument*
Mill Valley, CA 94941
(415) 388-2596

Pinnacles National Monument
Paicines, CA 95043
(408) 389-4485

Point Reyes National Seashore*
Point Reyes Station
Point Reyes, CA 94956
(415) 663-8522

Redwood National Park*
1111 Second Street
Crescent City, CA 95531
(707) 464-6101

Santa Monica Mountains
National Recreation Area
30401 Agoura Road, Suite 100
Agoura Hills, CA 91301

Sequoia and Kings Canyon National Parks*
Three Rivers, CA 91301
(209) 565-3341

Whiskeytown (Shasta-Trinity)
National Recreation Area
P.O. Box 188
Whiskeytown, CA 96095
(916) 241-6584

Yosemite National Park*
Yosemite, CA 95389
(209) 372-0200

The Nature Conservancy of California

Preserve Directory

All Nature Conservancy Preserves are open to the public. If you would like to visit a preserve, please call the preserve for directions and best times to visit.

Northern California

Consumnes River
(Ms.) Greg Elliott, Manager
6500 Desmond Road
Galt, CA 95632
(916) 684-2816

Mid-California Area Office
Rich Reiner, Area Manager
Contact at Cosumnes River Preserve.
(916) 684-2816

Gray Davis Dye Creek
George Stroud, Manager
Contact at McCloud River Preserve.
(916) 926-4366

Elkhorn Slough
Mark Silberstein, Director
Elkhorn Slough Foundation
P.O. Box 267
Moss Landing, CA 95039
(408) 728-5939

Fairfield Osborn
Tim Henke, Education Director
6543 Lichau Road
Penngrove, CA 94951
(707) 795-5069

Habitat Restoration Team
Bruce Handley, Coordinator
1540 River Park Drive, Suite 201
Sacramento, CA 95815
(800) 733-1763

Jepson Prairie
(Ms.) Greg Elliott, Manager
Contact at Cosumnes River Pres.
(916) 684-2816

Lanphere-Christensen Dunes/Mad River Slough and Dunes
Linda Miller, Manager
6800 Lanphere Road
Arcata, CA 95521
(707) 822-6378

McCloud River
George Stroud, Manager
P.O. Box 409
McCloud, CA 96057
(916) 926-4366

Northern California Area Office
Andrea Pickart, Area Manager
Contact at Lanphere-Christensen Dunes.

Northern California Coast Range
Peter Steele, Caretaker
42101 Wilderness Road
Branscomb, CA 95417
(707) 984-6653

Ring Mountain
Larry Serpa, Area Manager
3152 Paradise Drive #101
Tiburon, CA 94920
(415) 435-6465

Spindrift Point
Eleanor Borden,Caretaker
Star Route Box 252
Sausalito, CA 94965
(415) 388-7399

Southern California

Southern California Area Office
Cam Barrows, Area Manager
P.O. Box 188
Thousand Palms, CA 92276
(619) 343-1234

Big Bear Valley/Baldwin Lakes
Cam Barrows
Contact at Southern California Area Office.

Big Morongo Canyon
Carol Jacobsen, Manager
P.O. Box 780
Morongo Valley, CA 92256
(619) 363-7190

Carrizo Plain Natural Area
Chuck Warner, Manager
P.O. Box 3098
California Valley, CA 93453
(805) 475-2360

Central Coast Area Office
Ken Wiley, Area Manager
P.O. Box 15810
San Luis Obispo, CA 93406
(805) 546-8378

Coachella Valley
Carol Jacobsen, Manager
Contact at Big Morongo Canyon
(619) 363-7190

Creighton Ranch/Kawea Oaks
Craig Streeper,
Preserve Steward
3450 Avenue 144
Corcoran, CA 93212
(209) 992-2833

Preserve Directory Continued

Kern River
Reed Tollefson, Assistant Manager
P.O. Box 1662
Weldon, CA 93283
(619) 378-2531

McGinty Mountain
Gary Bell, Manager
Contact at Santa Rosa Plateau.
(714) 677-6951

Guadalupe-Nipomo Dunes
Nancy Warner, Caretaker
Contact at Carrizo Plain Natural Area.
(805) 545-9925

Santa Cruz Island
Diane Elfstrom-Devine, Operations Manager
213 Stearns Wharf
Santa Barbara, CA 93101
(805) 962-911

Santa Rosa Plateau
Robin Wills, Manager
Tenaja Road
Murrieta, CA 92362
(714) 677-6951

State Field Office
785 Market Street, Third Floor,
San Francisco, CA 94103
(415) 777-0487

Southern California Office
213 Stearns Wharf
Santa Barbara, CA 93101
(805) 962-9111

Popular Nature Conservancy Preserves

Highlighted here are 16 of the most popular preserves. All are open to the public. For access information and directions, contact the state office.

1. **McCloud River**. One of the state's finest trout streams; catch-and-release fly-fishing.
2. **Lanphere-Christensen Dunes**. Fragile, undisturbed sand dunes, forest and wetlands.
3. **Vina Plains**. Spring wildflowers ring rare vernal pools. Migratory waterfowl and native grasses.
4. **Fairfield Osborn**. Oak woodlands, evergreen forest, freshwater streams on Sonoma Mountain. Active environmental education program.
5. **Jepson Prairie**. Native grassland and vernal pools awash with spring flowers.
6. **Cosumnes River**. Pristine river corridor lined with valley oaks. A key wintering area for migratory waterfowl.
7. **Ring Mountain**. A biological island atop the Tiburon Peninsula on San Francisco Bay. Rare wildflowers, spectacular views.
8. **Elkhorn Slough**. Coastal estuary on Monterey Bay. Wintering area for shorebirds and waterfowl.
9. **Kaweah Oaks**. One of the last stands of majestic valley oaks. Slow-moving streams, nesting birds.
10. **Kern River**. Dense riparian woodland east of Lake Isabella; magnet for breeding birds.
11. **Carrizo Plain**. Kit foxes, sandhill cranes, an array of rare species thrive on this vast grassland preserve.
12. **Nipomo Dunes**. Miles of pristine coastal dunes, habitat for countless rare plants.
13. **Big Morongo Canyon**. Desert oasis, perennial stream. Mecca for birds.
14. **Santa Rosa Plateau**. Engelmann oaks, vernal pools, riparian woodland and rare plants.
15. **Santa Cruz Island**. A mini-continent protected forever. Accessible by day trips offered by The Nature Conservancy and other groups.
16. **Coachella Valley**. Rare animals, sand dunes and palm oases.

Sierra Club Chapters

(Chapter # is in parentheses next to the Chapter name.)

ANGELES (0400)~
3550 West 6th St., Suite 321
Los Angeles, CA 90020
(213) 387-4287

KERN-KAWEAH (0600)
1012 Hogan Way
Bakersfield, CA 93309
(805) 834-8035

LOMA PRIETA (0200)~
2448 Watson Ct.
Palo Alto, CA 94303
(415) 494-9901

LOS PADRES (1000)
1411 Ramona Dr.
Newbury Park, CA 91320
(805) 498-1736

MOTHER LODE (0900)~
P.O. Box 133
Sacramento, CA 95812
(916) 444-2180

REDWOOD (0300)
P.O. Box 466
Santa Rosa, CA 95402
(707) 544-7651

SAN DIEGO (0500)~
3820 Ray St.
San Diego, CA 992104
(619) 299-1743

SAN FRANCISCO BAY (0100)~
6014 College Ave.
Oakland, CA 94618
(415) 653-6127

SAN GORGONIO (1200)~
568 N. Mountain View Ave.,
Suite 130
San Bernardino, CA 92401
(714) 381-5015

SANTA LUCIA (2500)
P.O. Box 1575
San Luis Obispo, CA 93406
(805) 543-4296

TEHIPITE (1300)
P.O. Box 5396
Fresno, CA 93755
(209) 233-1820

TOIYABE (1400)
P.O. Box 8096
Reno, NV 89507
(702) 323-3162

VENTANA (1500)
P.O. Box 5667
Carmel, CA 93921
(408) 624-8032

~ Indicates walk-in, staffed office.

United States Fish and Wildlife Service

The following lists National Wildlife Refuges (NWR), Wildlife Management Areas and National Fish Hatcheries (NFH), managed by the U.S. Fish and Wildlife Service in California. (From the ***Visitor Directory***, Pacific Region, U.S. Fish and Wildlife Service, (503) 232-6121.)

Antioch Dunes NWR
c/o San Francisco Bay NWR Complex
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222

Bitter Creek NWR
c/o Kern NWR
P.O. Box 670
Delano, CA 93216
(805) 725-2767

Blue Ridge NWR
c/o Kern NWR
P.O. Box 670
Delano, CA 93216
(805) 725-2767

Butte Sink NWR/Wildlife Management Area
c/o Sacramento NWR Complex
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

Castle Rock NWR
c/o Humboldt Bay NWR
Route 1, Box 76
Loleta, CA 95551
(707) 733-5406

Clear Lake NWR
c/o Klamath Basin NWR Complex
Route 1, Box 74
Tulelake, CA 96134
(916) 667-2231

Coachella Valley NWR
c/o Salton Sea NWR
P.O. Box 120
Calipatria, CA 92233-0120
(619) 348-5278

Coleman NFH
Route 1, Box 2105
Anderson,CA 96007
(916) 365-8622

Colusa NWR
c/o Sacramento NWR Complex
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

Delevan NWR
c/o Sacramento NWR Complex
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

Ellicott Slough NWR
c/o San Francisco Bay NWR Complex
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222

Farallon NWR
c/o San Francisco Bay NWR Complex
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222

Grasslands Wildlife Management Area
c/o San Luis NWR Complex
340 "I" Street, P.O. Box 2176
Los Banos, CA 93635
(209) 826-3508

Hopper Mountain NWR
U.S. Fish andWildlife Service
P.O. Box 3817
Ventura, CA 93006
(805) 644-1766

Humboldt Bay NWR
Route 1, Box 76
Loleta, CA 95551
(707) 733-5406

Kern NWR
P.O. Box 670
Delano, CA 93216
(805) 725-2767

Kesterson NWR
c/o San Luis NWR Complex
340 "I" Street, P.O. Box 2176
Los Banos, CA 93635
(209) 826-3508

Lower Klamath NWR (Oregon and California)
c/o Klamath Basin NWR Complex
Route 1, Box 74
Tulelake, CA 96134
(916) 667-2231

Merced NWR
c/o San Luis NWR Complex
340 "I" Street, P.O. Box 2176
Los Banos, CA 93635
(209) 826-3508

Modoc NWR
P.O. Box 1610
Alturas, CA 96101
(916) 233-3572

Pixley NWR
c/o KernNWR
P.O. Box 670
Delano, CA 93216
(805) 725-2767

Red Bluff Diversion Dam Salmon Viewing Plaza
Sale Lane
Red Bluff, CA 96080
(916) 527-3043

Sacramento and Sacramento River NWR's
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

Salinas River NWR
c/o San Francisco Bay NWR Complex
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222

Salton Sea NWR
906 West Sinclair Road, P.O. Box 120
Calipatria, CA 92233-0120
(619) 348-5278

San Francisco Bay NWR
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222 (Visitor Center/refuge headqrters)
(408) 262-5513 (Environmental Education Center)

San Joaquin River NWR
c/o San Luis NWR Complex
340 "I" Street, P.O. Box 2176
Los Banos, CA 93635
(209) 826-3508

San Luis NWR
340 "I" Street, P.O. Box 2176
Los Banos, CA 93635
(209) 826-3508

San Pablo Bay NWR
c/o San Francisco Bay NWR Complex
P.O. Box 524
Newark, CA 94560-0524
(510) 792-0222

Seal Beach NWR
c/o Kern NWR
P.O. Box 670
Delano, CA 93216
(805) 725-2767

Sutter NWR
c/o Sacramento NWR Complex
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

Sweetwater Marsh NWR
c/o Tijuana Slough NWR
P.O. Box 335
Imperial Beach, CA 92032
(619) 575-1290

Tijuana Slough NWR
P.O. Box 335
Imperial Beach, CA 92032
(619) 575-1290

Tule Lake NWR
c/o Klamath Basin NWR Complex
Route 1, Box 74
Tulelake, CA 96134
(916) 667-2231

Willow Creek-Lurline Wildlife Management Area
c/o Sacramento NWR
Route 1, Box 311
Willows, CA 95988
(916) 934-2801

United States Forest Service

Forest Service Offices and Visitor Centers

Forest Supervisor's offices, Ranger District offices or Visitor Centers are often located along major highways leading into the National Forests; these offices can also provide local information, maps and assistance. Many Ranger districts offer visitor programs such as nature walks, campfire programs, or ski tours during peak visitor seasons.

USDA Forest Service
Public Affairs Office
630 Sansome Street
San Francisco, CA 94111
(415) 705-2874

Angeles National Forest
701 North Santa Anita Avenue
Arcadia, CA 91006
(818) 574-1613

Cleveland National Forest
880 Front Street, Room 5-N-14
San Diego, CA 92188
(619) 557-5050

Eldorado National Forest
100 Forni Road
Placerville, CA 95667
(916) 622-5061

Inyo National Forest
873 North Main Street
Bishop, CA 93514
(619) 873-5841

Klamath National Forest
1312 Fairlane Road
Yreka, CA 96097
(916) 842-6131

Lake Tahoe Basin
Management Unit
P.O. Box 731002
870 Emerald Bay Road
South Lake Tahoe, CA 95731
(916) 573-2600

Lassen National Forest
55 South Sacramento Street
Susanville, CA 96130
(916) 257-2151

Los Padres National Forest
6144 Calle Real
Goleta, CA 93117
(805) 683-6711

Mendocino National Forest
420 East Laurel Street
Willows, CA 95988
(916) 934-3316

Modoc National Forest
441 North Main Street
Alturas, CA 96101
(916) 233-5811

Plumas National Forest
P.O. Box 11500
Quincy, CA 95971
(916) 283-2050

San Bernardino National
Forest
1824 South Commercenter
Circle
San Bernardino, CA 92408-3430
(714) 383-5588

Sequoia National Forest
900 West Grand Avenue
Porterville, CA 93247-2035
(209) 784-1500

Shasta-Trinity National
Forests
2400 Washington Avenue
Redding, CA 96001
(916) 246-5222

Sierra National Forest
Federal Building
1130 "O" Street, Room 3009
Fresno, CA 93721
(209) 487-5155

Six Rivers National Forest
507 "F" Street
Eureka, CA 95501
(707) 442-1721

Stanislaus National Forest
19777 Greenley Road
Sonora, CA 95370
(209) 532-3671

Tahoe National Forest
Highway 49 and Coyote Streets
Nevada City, CA 95959
(916) 265-4531

NATIONAL FORESTS 1891-1991

Wise Use of Your Natural Resources

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Wildlife Rehabilitation Centers

REGION 1

Burney Falls Wildlife Rescue
P.O. Box 29
Burney, CA 96013
(916) 335-3855

California Conservation Corps
P.O. Box 645
Montague, CA 96064
(916) 459-3462

Humboldt Wildlife Care Center
P.O. Box 4141
Arcata, CA 95521
(707) 839-0295; (707) 839-4847;
(707) 822-7552

Shasta Wildlife Rescue
P.O. Box 1173
Anderson, CA 96007
(916) 365-9453

Trinity Wildlife Center
P.O. Box 351
Douglas City, CA 96024
(916) 623-3717

Wilderness Research Inst.
West Highway 3
Fort Jones, CA 96032
(916) 468-5287

REGION 2

Bidwell Nature Center
Bidwell Park
Chico, CA 95926
(916) 342-3710

Davis Wildlife Care Assoc.
P.O. Box 676
Davis, CA 95616
(916) 756-9531

Feather River Wildlife Care
P.O. Box 1964
Marysville, CA 95901
(916) 743-0867

Five Mile Creek Raptor Center
P.O. Box 99098
Stockton, CA 95240
(209) 477-0602

Fournier Ranch Wildlife Care
P.O. Box 242
Sierra City, CA 96125
(916) 862-1391

Lake Tahoe Wildlife Care Inc.
P.O. Box 10557
South Lake Tahoe, CA 95705
(916) 577-2273

Mother Lode Vet. Hospital
11509 La Barr Meadows Road
Grass Valley, CA 95945
(916) 272-6651

Plumas County Wildlife Care Center
Feather River College
Quincy, CA 95971
(916) 281-6531

Sacramento Science Center
3615 Auburn Blvd.
Sacramento, CA 95821
(916) 449-8255

Sacramento Wildlife Care Assoc.
P.O. Box 60982
Sacramento, CA 95860
(916) 383-7922

San Joaquin County Zoo Society
11793 Mickey Grove Road
Lodi, CA 95240
(209) 953-8840

Sierra Wildlife Rescue
P.O. Box 2127
Placerville, CA 95667
(916) 644-3734

U.C. Davis Raptor Center
VMTH Business Office
Davis, CA 95616
(916) 752-6091

Wildlife Rehabilitation Cntr
5285 West Lake Blvd.
Homewood, CA 95718
(916) 525-5273

REGION 3

Animal Care and Control Dept. of SF
289 City Hall
San Francisco, CA 94102
(415) 554-3000

Bird Rescue Center
3430 Chanate Rd, P.O. Box 475
Santa Rosa, CA 95402
(707) 523-2473

Bogosian, Connie
4398 Atles Peak Road
Napa, CA 94558
(707) 224-9300

Calif. Center for Wildlife
76 Albert Park Lane
San Rafael, CA 94915
(415) 454-6961

Central Coast Rehabilitation Guild
P.O. Box 12437
San Luis Obispo, CA 93403
(805) 544-1406

Critter Care Wildlife Rescue Team
92 Oak Knoll Road
Ukiah, CA 95482
(707) 462-4032

Humane Society of Napa County
P.O. Box 695
Napa, CA 94559
(707) 255-8118

Humane Society of Santa Clara Valley
2570 Lafayette Street
Santa Clara, CA 95050
(408) 727-7701

Injured and Orphan Wildlife
P.O. Box 679
San Jose, CA 95150
(408) 946-4212

International Bird Rescue Research Center
699 Potter Street
Berkeley, CA 94710
(510) 841-9086

Lake County Wildlife Rehab. & Release
P.O. Box 1770
Lower Lake, CA 95457
(707) 263-2354

Lindsey Museum, The
1901 First Avenue
Walnut Creek, CA 94596
(415) 935-1978

Marin Humane Society
171 Bel Marin Keys Blvd.
Novato, CA 94947
(415) 883-4621

Mendocino Woodlands Outdoor Education Center
P.O. Box 267
Mendocino, CA 95460
(707) 937-2545

Monterey County SPCA
1002 Monterey - Salinas Hwy
Monterey, CA 93940
(408) 373-2631

Native Animal Rescue of Santa Cruz
2200 Seventh Avenue
Santa Cruz, CA 95062
(408) 462-0726

North Co. Animal Hospital & Wildlife Rescue
P.O. Box 605
Paso Robles, CA 93447
(805) 238-5882

Peninsula Humane Society
12 Airport Blvd.
San Mateo, CA 94401
(415) 573-3720

Peter, Jan
2552 Oakwood Court
Napa, CA 94559
(707) 226-1254

San Benito County SPCA
P.O. Box 206
Paicines, CA 95043
(408) 628-3400

Sonoma Wildlife Rehab. Center
P.O. Box 9360
Santa Rosa, CA 95043
(707) 526-9453

Suisun Marsh Natural History Association
1171 Kellogg Street
Suisun, CA 94585
(707) 429-4295

Sulpher Creek Nature Center
1801 D Street
Hayward, CA 94541
(510) 881-6747

Wildlife Center for Disease and Toxin Investigation
P.O. Box 670
Kenwood, CA 95452
(707) 833-5027

Wildlife Fawn Rescue
2609 Bristol Road
Kenwood, CA 95452
(707) 833-6727

Wildlife Rescue, Inc.
4000 Middlefield Road
Palo Alto, CA 94303
(415) 494-7283

Willits Wildlife Rescue Team
1921 Lupine Way
Willits, CA 95490
(707) 459-6300

Youth Science Institute
16260 Alum Rock Avenue
San Jose, CA 95127
(408) 258-4322

REGION 4

Animals for Education
36760 San Creek Road
Squaw Valley, CA 93975
(209) 338-2415

Fact SCU
9001 Stockdale Highway
Bakersfield, CA 93309
(805) 833-3167

Fort Roosevelt
P.O. Box 164
Armona, CA 93202
(209) 582-8970

Fresno Wildlife Rescue and Rehab.
P.O. Box 9032
Fresno, CA 93790
(209) 298-3276

Hayes, Shirley
20876 Avenue 328
Woodlake , CA 93286
(209) 564-3893

Hume Lake Christian Conf.
256 North Maple Avenue
Fresno, CA 93702
(209) 251-6043

O'Keefe, Kathy L.
209 West Holland
Fresno, CA 93705
(209) 224-5192

Pollard, Robert J.
19624 Highway 108
Sonora, CA 95370

Redwood Ed. Animal Care Hospital
1001 West Main Street
Visalia, CA 93291
(209) 625-6748

San Joaquin Raptor Rescue Center
P.O. Box 778
Merced, CA 95314
(209) 358-3706

SCICON
P.O. Box 339
Springville, CA 93265
(209) 539-3513

Stanislaus Wildlife Care Cntr.
P.O. Box 1201
Modesto, CA 95353
(209) 538-7832

REGION 5

All Animals Hospital
1560 Hammer Avenue
Norco, CA 91760
(714) 737-1242

All Creatures Care
1912 Harbor Blvd.
Costa Mesa, CA 92627
(714) 722-0606

Del Amo Animal Hospital
23500 Hawthorne
Torrance, CA 90505
(213) 378-9338

Friends of Wildlife Rescue and Rehab. Center
1724 Oakhill
Escondido, CA 92027
(619) 743-2027

Fund for Animals
18740 Highland Valley Road
Ramona, CA 92065
(619) 789-2324

Hall, Barbara
33550 Domino Hill
Agua Dulce, CA 91350
(805) 269-5580

Helen Woodward Animal Cntr.
6461 El Apajo Road
Rancho Sante Fe, CA 92067
(619) 756-4117

Highland Avenue Veterinary Clinic
1731 East Highland Avenue
San Bernardino, CA 92407
(714) 889-0093

Johnson, Robert E
18085 Thoreson
Lake Elsinore, CA 92330
(714) 678-3361

Living Desert, The
47-900 Portola Avenue
Palm Desert, CA 92260
(619) 346-5694

Moorpark College
7075 Campus Park
Moorpark, CA 93201
(805) 378-1441

Orange County Bird of Prey Center
23352 El Perro Street
El Toro, CA 92630
(714) 837-5222

Pletchner, DVM, Al
1736 South Sepulveda Blvd.
West Los Angeles, CA 90025
(213) 478-0545

Project Wildlife
764 Glen Oaks
Alpine, CA 92001

San Clemente Veterinary Hospital
1833 South El Camino Real
San Clemente, CA 92172
(619) 492-5777

Santa Barbara Wildlife Care Network
1616 Franchesci Road
Santa Barbara, CA 93103
(805) 967-5394

Solvang Veterinary Hospital
630 Alamo Pitado
Solvang, CA 93463
(805) 688-6484

South Bay Wildlife Rehab.
26363 Silver Spur
Palos Verdes, CA 90274
(213) 378-9921

Sun Surf Animal Hospital
16571 Pacific Coast Highway
Sunset Beach, CA 90724
(213) 592-1391

Ventura Wildlife Rescue
2009 Evans Avenue
Ventura , CA 93001
(805) 653-1674

Ventura-Ojai Wildbird Care
233 West Valeria
Santa Barbara, CA 93101
(805) 569-1728

Wild Bird Rehab. Center
408 Daytona Drive
Goleta, CA 93117
(805) 968-9407

Wild Wings of CA, Inc./ Judy Everet
1837 Fernridge Drive
San Dimas, CA 91773
(714) 592-4900

Wildbird Care and Rehab.
P.O. Box 1336
Studio City, CA 91614
(213) 789-8460

Wildlife Center
1266 Clarke Drive
El Cajon, CA 92021
(619) 588-4705

Wildlife on Wheels
4575 Northridge Drive
Los Angeles, CA 90043
(213) 299-2900

Wildlife Rescue and Education Center
1286 Oaknoll Drive
Vista, CA 90284
(619) 724-6338

Wildlife Waystation
14831 Tujunga Canyon Road
San Fernando Valley, CA 90043
(818) 899-5201

Zoo Affiliated Education Departments in California

FROM 1990-1991 AAZPA DIRECTORY

Chaffee Zoo
Curator of Education
894 West Belmont Avenue
Fresno, CA 93728
(209) 488-1549

Charles Poddock Zoo
Education Director
9305 Pismo Street
Atascadero, CA 93422
(805) 461-5083

The Living Desert
Curator of Education
47-900 Portola Avenue
Palm Desert, CA 92260
(619) 346-5694

Los Angeles Zoo
Curator of Education
5333 Zoo Drive
Los Angeles, CA 90027
(213) 666-4650

Marine World Africa USA
Director of Education
2001 Marine World Parkway
Vallejo, CA 94589
(707) 644-4000

Micke Grove Zoo
Education Coordinator
11793 North Micke Grove Road
Lodi, CA 95240
(209) 953-8840

Monterey Bay Aquarium
Director of Education
886 Cannery Row
Monterey, CA 93940
(408) 648-4800

Oakland Zoo
Education Director
9777 Golf Links Road
Oakland, CA 94605
(510) 632-9525

Sacramento Zoo
Education Coordinator
3930 West Land Park Dirve
Sacramento, CA 95822
(916) 449-5166

San Diego Wild Animal Park
Education Manager
15500 San Pasqual Valley Road
Escondido, CA 92027
(619) 747-8702

San Diego Zoo
Education Director
P.O. Box 551
San Diego, CA 92112
(619) 231-1515

San Francisco Zoological Gardens
Education Director
1 Zoo Road
San Francisco, CA 94132-1098
(415) 753-7073

Santa Ana Zoo
Curator of Education
1801 East Chestnut Avenue
Santa Ana, CA 92701
(714) 836-4000

Santa Barbara Zoological Gardens
Education Curator
500 Ninos Drive
Santa Barbara, CA 93103
(805) 962-5339

Sea World of California
Director of Education
1720 South Shores Road
San Diego, CA 92109
(619) 222-6363

Associations and Events

ADDITIONAL ASSOCIATIONS TO CONTACT

The American Cetacean Society, concerned with ensuring the protection of marine mammals.
P.O. Box 2639
San Pedro, CA 90731
(213) 548-6279

East Bay Regional Park District
11500 Skyline Blvd.
Oakland, CA 94619
(415) 531-9300 for general park information

Golden State Wildlife Federation, the state affiliate of the National Wildlife Federation, and is the California source for Annual Wildlife Week Packets for teachers.
1250 Addison Street, Suite 107
Berkeley, CA 94702
(510) 848-2211

CONTESTS AND AWARD PROGRAMS

Your school may wish to enter competitions for awards and recognition from other agencies, organizations, and corporations. Contact the following for details.

California Department of Fish and Game Photography Award Program
Conservation Education Office, Department of Fish and Game
1416 Ninth Street, Room 1206-20
Sacramento, CA 95814
(916) 653-6420

California Native Plant Society Poster Contest
Each participant will receive a certificate; prizes will be awarded to winners. The prize-winning poster will be displayed at different locations throughout the state.
California Native Plant Society Poster Contest
909 12th Street, Suite 116
Sacramento, CA 95814
(916) 447-CNPS.

Chevron Conservation Awards
P.O. Box 7753
San Francisco, CA 94120-7753
(415) 894-2457

Keep America Beautiful Patch Activities for Girl Scouts
Keep America Beautiful is an organization dedicated to improving waste handling practices in American communities. A patch program has been developed with GSUSA for Brownie, Junior, Cadette, and Senior Girl Scouts. The descriptive booklet "Keep America Beautiful Patch Activities for Girl Scouts" and application form are available for $1.50.
Contact: Keep America Beautiful, Inc.
9 West Broad Street
Stamford, CT 06902.

President's Environmental Youth Awards

Young people in all fifty states are invited to participate in the President's Environmental Youth Awards program. This program encourages individuals, summer camps, and youth organizations, among others, to promote local environmental awareness and to channel this awareness into positive community involvement. The program has two components. Regional certificates are awarded by the regional offices of the U.S. Environmental Protection Agency. National award winners are selected by the regional offices and forwarded for administration by EPA Headquarters in Washington, DC. The application deadline is July 31 each year.

Contact the EPA regional office for an application or :
Melba Meador
U.S. Environmental Protection Agency
Washington, D.C. 20460
(202) 382-4454

Renew America – Searching for Success

Renew America, a nonprofit environmental education organization, coordinates a search for the most successful environmental education programs that can be used as models for the communities in a national effort to protect, restore, and enhance the environmental "Success Index" and is reviewed for the National Environmental Achievements Awards. The application must be submitted by January 15 each year.

Renew America
1400 16th Street, NW, Suite 710
Washington, DC 20036
(202) 232-2252

Take Pride in America National Awards Program

The Take Pride in America National Awards Program recognizes individuals and groups for outstanding stewardship projects or awareness efforts in involving federal, state, local and American Indian lands, waters, and cultural resources. If the activities can be demonstrated to have public benefits, projects may take place on privately owned lands. Applications for awards must be submitted at the state level by the designated deadline each year.

Take Pride in America
P.O. Box 1129
Jessup, MD 20794-1129.

ENVIRONMENTAL EDUCATION FAIRS

The environmental education fairs are partially funded by the Environmental Education Grant Program of the California Department of Education. Applications for grants are due the last Friday of June and can be obtained by calling the Science and Environmental Education Unit at (916) 657-5374.

The B.A.E.E.R. Fair

The Bay Area Environmental Education Fair services over 3,000 teachers in the greater San Francisco Bay Area. Exhibits, staff development workshops, and performances present current environmental education programs and information.

Contact: Ken Hanley, (415) 657-4847.

Endangered Species Faire

The Butte Environmental Council hosts an Endangered Species Faire each year in late April in Bidwell Park, Chico, California. An estimated 7,000 people attend and obtain information regarding environmental problems, issues, and interests. The event features 40-50 booths with displays and activities. Activities include environmental music and dancers, speakers, and hikes.

Contact: Tom Leonardi, (916) 891-6424.

ENVIRONMENTAL EDUCATION FAIRS, Continued

Inland Empire Environmental Expo

Coordinated by the Foundation at California State University, San Bernardino, the Expo is a project of the Network for Environmental Science Training which links schools, businesses, museums, and various agencies in promoting environmental education in the community. Held in April, this event includes exhibits, displays, environmental contests for students, workshops and live music. The Expo takes place at California State University, San Bernardino.

Contact: Dr. Darlene Stoner, (714) 880-5640.

Los Angeles Environmental Education Fair

Held at the Los Angeles Arboretum, this fair attracts over 4,000 teachers and students who experience a Nature Bowl competition, nature exhibits, an ecological Treasure Hunt, and speeches on environmental topics.

Contact: Aurilla Maas, (213) 250-6739.

Monterey Bay Environmental Resources Fair

This fair extends over April 21 and 22. It is held in Monterey, Santa Cruz, and San Benito Counties and features environmental booths, children's performances, an endangered species parade, tree planting ceremonies, and environmental exhibits from local and state fairs.

Contact: Lo Lyness, (408) 755-0375.

Nature Bowl

The Delta Environmental Education Resources (DEER) Coalition holds this event in early May at California State University, Sacramento. It hosts a competition for 3rd through 6th grade students from ten counties. Students compete for prizes by answering questions related to environmental science and regional environmental issues.

Contact: Bruce Forman, (916) 355-7130.

Redwood Environmental Education Fair

The Humboldt County Office of Education sponsors this fair for students and teachers in grades 3 through 8. Nearly 2,700 people participate in hands-on presentation and visit nature exhibits. A major objective is to bring practicing scientists and other environmental experts together with the students and teachers to discuss issues and ideas concerning the environment. Over 53 different organizations, groups, and individuals present sessions during this two day event in late May.

Contact: Cheryl Ingham, (707) 445-7078 or Jan Rea, (707) 445-7082.

Super Saturday Science

The Carter House Natural Science Museum organizes this fair to promote student awareness and understanding of environmental science issues. This is accomplished through recognition of student conservation projects, experiments and inventions, teacher inservice to promote student participation, and hands-on displays by conservation agencies and organizations. Approximately 2,000 people attend.

Contact: Paul Krapfel, (916) 225-4125.

ENDANGERED SPECIES BIBLIOGRAPHY

The following resource materials are available to assist you and your students in researching your adopted species. Prices and ordering information have been included when possible.

PUBLICATIONS

GENERAL INFORMATION ABOUT ENDANGERED SPECIES

Teacher References

Birds In Jeopardy-The Imperiled and Extinct Birds of the United States and Canada, Paul R. Ehrlich, et.al., Stanford University Press, 1992. Available in some bookstores or order from Richardson Bay Audubon Center, 376 Greenwood Beach Rd., Tiburon, CA 94920. $17.95 plus 7.25% tax and $2.00 shipping.

Endangered Species Activist Toolkit, National Audubon Society. Includes information on endangered species and "Tool Sheets" for building skills in letterwriting, organizaing coalitions, communications, etc. Available from National Audubon Society, 700 Broadway, New York, NY 10003. $6/ea.

In Our Own Hands: Biodiversity in California. California Academy of Sciences, University of California, Berkeley. 1989.

Pesticide Use and Endangered Species, a brochure published by the Department of the Interior, U.S. Fish and Wildlife Service. For more information, please contact: Director, U.S. Fish and Wildlife Service (SWE), 18th and C St. NW, Washington, DC 20240.

Plants in Danger, Edward R. Ricciuti. New York: Harper and Rowe, 1979. Discusses plant species from all parts of the world that are in danger of extinction.

Science and Environmental Education Resource Guide, CaliforniaDepartment of Education, Math/Science/Environmental Education Unit, 721 Capitol Mall, Sacramento, CA 95184. 1991. This book contains an extensive bibliography of endangered species materials. Updated copies are sent to each school, school district office, and county office of education in the state.

The Endangered Species Act: A Commitment Worth Keeping, The Endangered Species Coalition. Describes the Endangered Species Act, how it works, and its reauthorization. Available from Wilderness Society, Washington, DC or National Audubon Society, 700 Broadway, New York, NY 10003.

The Endangered Species Handbook, Greta Nilsson. Contact the Animal Welfare Institute, P.O. Box 3650, Washington, DC 20007.

Wildlife in America. Peter Mathiessen. Available in most libraries and bookstores.

Books for Students

Come Back Salmon. Molly Cone, Sierra Club Books. Describes how children overcame the odds and restored Pigeon Creek where salmon had not been seen in 20 years. Available in book stores, $15.95.

ZOOBOOKS: Endangered Animals. P.O. Box 28870, San Diego, CA 92128. Also available in some bookstores. Approximately $2.00.

INFORMATION ABOUT ENDANGERED CALIFORNIA WILDLIFE

Teacher References

Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants: California Department of Fish and Game. Summarizes the status of 72 animals and 140 plants listed by the Fish and Game Commission. Reviews legislation affecting endangered species, funding, and habitat preservation programs. Order from the California Department of Fish and Game, Fiscal Section/Control Accounts, 1416 Ninth Street, 12th Floor, Sacramento, CA 95814. $16.50 per copy.

California's Wild Heritage: Threatened and Endangered Animals in the Golden State. Peter Steinhart. Available from Sierra Club Books, 1990. Complimentary copies were sent to every school, school district, and county office of education in the state. Additional copies are available from the Department of Fish and Game, Fiscal Section/Control Accounts, 1416 Ninth Street, Sacramento, CA 95814. $12.95 per copy.

Endangered and Threatened Species of the San Francisco Bay Region. A checklist published by the San Francisco Bay Wildlife Society, in cooperation with the U.S. Fish and Wildlife Service. Contact the San Francisco Bay National Wildlife Refuge Environmental Education Center, P.O. Box 524, Newark, CA 94560, (408) 262-5513.

Endangered Plants of California. An official list of the state-protected endangered, threatened and rare plants in California. Contact Endangered Plant Program, Natural Heritage Division, Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814, (916) 739-4750.

Endangered Species in the National Parks, U.S. Department of the Interior, Naitonal Park Service. Information on all aspects of endangered species in National Parks. Write any of the National Park Service areas listed on page 87 of this guide to obtain this pamphlet.

Endangered Wildlife and Habitats in Southern California. Edited by Peter J. Bryant and Janet Remington, 1990. A collection of occasional papers published by the Natural History Foundation of Orange County. Available through the Museum of Natural History and Science, P.O. Box 7038, Newport Beach, CA 92660 (714) 640-7120 or (714) 586-3550. Around $11.00.

Endangered Wildlife of California. Contact your local Department of Fish and Game office. For a free list of available publications on fish and wildlife in California, call (916) 653-6420.

Outdoor California. A magazine published bimonthly by the California Department of Fish and Game. Contact OUTDOOR CALIFORNIA, P.O. Box 15807, Sacramento, CA 95851-0087. $6.50 per year.

San Diego's Endangered And Threatened Species: Our Vanishing Resources. David L. Robinson. Write: D.L. Robinson, 4070 Apore St., La Mesa, CA 92041.

Species In Danger in Your Own Backyard: Endangered, Threatened and Rare Species in the South San Francisco Bay Area. Peninsula Conservation Center. Order from Peninsula Conservation Center, 2448 Watson Ct., Palo Alto, CA 94303, (415) 494-9301. $5.00 plus 8.25% tax and $1.75 handling per copy.

Western Water, "The Endangered Species Act and California Water: Where Projects Meet." November-December, 1990, Water Education Foundation. Order this back issue of the magazine from Water Education Foundation, 717 K Street, Sacramento, CA 95814. $2.50 each backorder plus 7.25% tax and $1.50 shipping up to $50.

Books for Students

Saving the Condor. Nancy T. Schorsch, Frankling Watts, 1991. Good pictures and accurate text on the efforts to save the California Condor. Available in bookstores or order from Richardson Bay Audubon Center, 376 Greenwood Beach Rd., Tiburon, CA 94920. $14.95 plus 7.25% tax and $2.00 shipping.

Wildlife California. Chronicle Junior Nature Series, A book for young people about California's wildlife preserves and some of the wildlife that inhabits them including some endangered species. Chronicle Books, San Francisco. Available in some bookstores, $9.95.

AUDIO-VISUAL AND GRAPHIC MATERIALS

A Sense of Place. A CA State Parks print, video and curriculum project to help Californians discover their particular bioregions and learn about the natural landscapes of the State. CA State Parks.

Audubon Wildlife Adventures Software. For ages 9 to adult, is available for Apple and IBM compatible systems. Two titles are available:*Grizzly Bears* and*Whales*. Programs are interactive, and come with colorful activity guides with valuable information of conservation issues and activities that extend learning beyond the computer. Order from Top Ten Softward, 40308 Greenwood Way, Oakhurst, CA 93644, (209) 683-7577.

Endangered Species. Cassette and Handbook, Grades 3-6. Discusses some of the species in trouble today. Contact the Education Department of the Marin Humane Society, 171 Bel Marin Keys Blvd., Novato, CA 94949, (415)883-4621 .

National Audubon video programs are available in the following titles. Cassettes are available for rental for $8.00 per week. Contact the Richardson Bay Audubon Center and Sanctuary, 376 Greenwood Beach Road, Tiburon, CA 94920, (415) 388-2524 Wednesday through Sunday. To purchase a video cassette, order from: PBS Video, Inc., 1320 Braddock Road, Alexandria, VA 10025.

California Condor, narrated by Robert Redford
Sea Turtles: Ancient Nomads, narrated by Jane Alexander
Ducks Under Siege, narrated by John Heard (Focuses on vanishing wetland habitats)
Greed & Wildlife: Poaching in America, narrated by Richard Chamberlain
Ancient Forests: Rage Over Trees, narrated by Paul Newman (Ancient forest/spotted owl issues)
Danger at the Beach, featuring Ted Danson.

Pieces of Eden: Resource Mangement in California's State Parks. This video describes resource management problems in the parks. These issues apply to natural resource management elsewhere in the State and relate to endangered species. Publications Section, State of California Resources Agency, P.O. Box 943896, Sacramento, CA 94296-0001, 17 minutes, $19.95.

Rare and Endangered Plants of California. An 18 minute VHS video cassette. Contact the Endangered Plant Program, Natural Heritage Division, California Department of Fish and Game, 1416 Ninth Street, 12th Floor, Sacramento, CA 95814, (916) 739-4750.

Saving Endangered Species. An Audubon Activist video featuring spectacular footage of endangered species throughout the United States, a Capitol Hill briefing about ways that citizens can help strengthen the Endangered Species Act, and tips on shoppping to help wildlife. Cost is $12.95 from National Audubon Society, 700 Broadway, New York, NY 10003.

Wetlands—Wonders Worth Saving: Life in a Salt Marsh and *Pacific Ocean in Peril.* Full Color 24" x 36' Audubon posters make excellent visual tools for students of all ages. Companion *Leader's Guides* may be purchased separately for each poster. Send for an order form and current list of prices: Northeast Audubon Center, Route 4, Box 171, Sharon, CT 06831, (203) 364-0520.

Wild California. A musical journey into the natural beauty of California's wilderness showing various habitats and endangered wildlife. Sea Studios, 810 Cannery Row, Monterey, CA 93940, (800) 331-3568.

ENDANGERED SPECIES ACTIVITIES FOR THE CLASSROOM

While the following references may not contain lessons which reflect the current pedagogical approaches recommended in the Science Framework for California Schools, they can act as an excellent resource for engaging activities which are developmentally appropriate for students in kindergarten through grade 12.

California's Vanishing Flora: A Curriculum Guide to Endangered Plants of California, prepared by Stephanie Kaza, Ph.D. for California Department of Fish and Game in cooperation with California Department of Education. Written to accompany a video called "California's Vanishing Flora." For information contact: Endangered Plant Program, Natural Heritage Division, Department of Fish and Game, 1416 Ninth Street, Sacramento, CA 95814. Call (916) 327-5956.

Discovering Endangered Species: A Learning and Activity Book, by Field and Machlis, Dog-Eared Publications, P.O. Box 814, Corvallis, OR 97339. Contains many activities for elementary school classes. Can be obtained directly from Dog-Eared Press or by sending a check made out to National Audubon Society for $3.99 + $.28 tax + $2 shipping to: The BOOK NEST, 376 Greenwood Beach Rd., Tiburon, CA 94920.

Endangered Animals: Unit and Activities to Increase Awareness, Knowledge and Appreciation, (Grades 3-5 and 6-8), by Leigh Childs, et. al., P.O. Box 9856, San Diego, CA 92109. This is a teacher's guide to accompany *ZOOBOOKS: Endangered Animals*, published by Wildlife Education, Ltd. Call (619) 745-0685. These materials are not necessarily specific to California species. Try adapting by substituting California species.

Going Green: A Kid's Handbook to Saving the Planet, by John Elkington, et. al., Puffin Books, 1990. Can be obtained at book stores or by sending a check made out to National Audubon Society for $8.95 + $.64 tax + $2 shipping to: The BOOK NEST, 376 Greenwood Beach Rd., Tiburon, CA 94920.

NatureScope-Endangered Species: Wild & Rare, National Wildlife Federation, 1412 16th St., Washington, D.C., 20036-2266, 1987. Contains many excellent activities for elementary school classes. Call (800) 432-6564.

Project Learning Tree, Activity Guide (K-6 & 7-12), The American Forest Council, 1250 Connecticut Ave. NW, Washington, D.C. 20036, 1991. Obtained through workshops. Call (916) 653-7958.

Project WILD (Elementary and Secondary Guides) and *Project WILD Aquatic*, Western Regional Environmental Education Council, Salinas Star Route, Boulder, Colorado 80302, 1987. Obtained through workshops. Call (916) 653-9843.

Salt Marsh Manual: An Educator's Guide, San Francisco Bay National Wildlife Refuge, Environmental Education Center, P.O. Box 524, Newark, CA 94560. Free with a workshop on site, or $10 by mail. Has a chapter on endangered species in wetland habitats.

The California State Environmental Education Guide, by Carolie Sly and Leslie Comnes, Alameda County Office of Education, 313 West Winton Ave., Hayward, CA 94544-1198, 1988. Call (510) 670-4168.

Toxics: Taking Charge: A Curriculum For Grades Four Through Eight, A Supplement to the California State Environmental Education Guide, Alameda County Office of Education, 313 West Winton Ave., Hayward, CA 94544-1198. Call (510) 670-4168.

Water Wisdom: A Curriculum For Grades Four Through Eight, A Supplement to the California State Environmental Education Guide, Alameda County Office of Education, 313 West Winton Ave., Hayward, CA 94544-1198, 1988. Call (510) 670-4168.

Appendix A

ENDANGERED SPECIES INFORMATION CARDS

The following pages have been included to help you educate your classes about the endangered species situation. Copy these sheets and give them to your students. They might wish to cut the sheets and attach each block to an index card to keep on file.

FACTORS CONTRIBUTING TO ENDANGERMENT AND EXTINCTION

HABITAT DESTRUCTION

Habitat loss and habitat fragmentation undermine the integrity of ecosystems. Common causes of habitat loss are:

- drained and filled wetlands.
- conversion of rivers into reservoirs.
- conversion of habitat to housing, industry, landfills, ranching, and farming.
- irresponsible off-road vehicle use.
- poorly managed timber harvesting.

COMMERCIAL EXPLOITATION AND PREDATOR CONTROL

The over-harvesting of one species disrupts the balance of the ecosystem. This includes:

- commercial over-harvesting of plants and animals.
- unregulated and illegal hunting, collection, and extermination practices.

INTRODUCED (EXOTIC) SPECIES

Introduced species alter the structure and function of ecosystems through:

- the addition or loss of predator species.
- change in the population of a species.
- uncontrolled pets.
- introduced diseases.
- increased competition for resources.

PESTICIDES, POISONING, AND POLLUTION

The integrity of ecosystems can be degraded by producing, using, transporting, and disposing of industrial materials and consumer goods. Some examples are:

- poisons and pesticides in food webs.
- chemical and oil spills.
- litter.
- acid rain.
- groundwater contamination.

DEFINITIONS OF STATE AND FEDERAL LISTINGS

ENDANGERED: STATE LISTING

Any native species or subspecies of animal or plant which is in serious danger of becoming extinct throughout all or most of its range due to one or more causes. Causes include loss of habitat, changes in habitat, overexploitation, predation, competition or disease.

ENDANGERED: FEDERAL LISTING

Any species of plant or animal which is in danger of extinction throughout all or a significant portion of its range other than a species of insect determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to humans.

THREATENED: STATE LISTING

Any native species or subspecies of animal or plant that, although not presently threatened with extinction, is likely to become an endangered species within the foreseeable future in the absence of the species' protection and management efforts requested by this chapter.

THREATENED: FEDERAL LISTING

Any species of plant or animal which is likely to become an endangered species within the foreseeable future throughout all or most of its range.

RARE: STATE LISTING

Although the species (plants only) is not presently threatened with extinction, it exists in such small numbers throughout all or most of its range that it may become endangered if its environment worsens.

LAWS PROTECTING ENDANGERED SPECIES

CESA

(California Endangered Species Act)

This act declares that it is California's policy to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat, and to acquire lands for these species' habitats.

CEQA

(California Environmental Quality Act)

This Act defines and explains the following terms: Public Agency, Rare or Endangered Species, Responsible Agency, and Significant Effect on the Environment.

CNPPA

(California Native Plant Protection Act)

The purpose of this Act is to preserve, protect, and enhance California's endangered or rare native plants.

FESA

(Federal Endangered Species Act)

The purpose of this Act is to provide a means to conserve the endangered species' and threatened species' ecosystems, and to provide an Endangered and Threatened Species Conservation Program.

Appendix B

GENERAL HABITAT DESCRIPTIONS[1]

INTRODUCTION

"General Habitat" indicates one or more habitats in which a candidate rare, threatened, or endangered species is typically found. The types listed are very broad; each taxon occupies only a portion of the general type. This information was compiled from field survey forms, unpublished reports, original descriptions, floras, and wildlife references. Habitat information based upon field observations was given priority whenever possible. Habitat discussions for terrestrial communities and wetlands emphasize observable differences in vegetation which reflect underlying differences in the physical environment. Major drainages and types of features such as lakes and streams are used for aquatic habitats. Common English words and phrases have been used in both terrestrial and aquatic environments when standardized types did not adequately describe the general habitat of the taxon.

Please refer to R. F. Holland (1986)[2] for a more complete discussion of terrestrial types and their classification. Moyle and Ellison (in press)[3] classifies aquatic habitats. The numerical reference code used by the Natural Diversity Data Base found in Holland (1986), follows each terrestrial habitat name.

Coastal Dunes (21000)

Herbs or shrubs on coastal sand deposits from Del Norte to San Diego counties. Cover usually low near the beach, increasing with distance from salt spray and blowing sand.

Desert Dunes (22000)

Sand accumulations east of the Pacific Crest from Modoc to Imperial counties. Vegetation on desert dunes varies considerably. Active dunes usually support only sparse herbs and grasses.

Inland Dunes (23000)

Mostly herbs, although shrubs may be locally important. Sand accumulations in and around the Great Valley.

Coastal Bluff Scrub (31000)

Dense shrubs, prostrate to 3 - 6.5 feet tall. Typically on fairly steep, rocky sites exposed to considerable wind and salt spray because of proximity to the ocean. Many plants are succulent, especially to the south. Found from Del Norte to San Diego counties.

Coastal Scrub (32000)

Dense shrubs 1.5 - 6.5 feet tall with scattered grassy openings. Many plants dormant, even deciduous, during periods of water stress. Most sites have shallow rocky soils, frequently with a southern or western exposure. Many taxa adapted to fire by stump sprouting or high seed production.

Sonoran Desert Scrub (33000)

Widely scattered creosote shrubs with the considerable space between them sometimes occupied by ephemeral, colorful shows of annuals following particularly wet winters. Succulents and microphyllous trees conspicuous, especially in rocky environments. Found roughly south of the San Bernardino-Riverside county line.

Mojavean Desert Scrub (34000)

Widely scattered creosote shrubs with the considerable space between them sometimes occupied by ephemeral, colorful shows of annuals following particularly wet winters. At elevations of 2000' or higher, succulents or small-leaved trees lacking.

Great Basin Scrub (35000)

Shrubs, ranging in height from very short, 8 inches, on very cold sites or shallow soils to 3 - 6.5 feet tall on warmer sites where soils are deeper. Perennial grasses occupy much of the space between shrubs. Found on the Modoc Plateau, high Cascade Range, Warner Mountains, High Sierra Nevada, and North Coast Ranges.

Chenopod Scrub (36000)

Usually gray, intricately branched, small-leaved shrubs most commonly on fine-textured, alkaline and/or saline soils in areas of impeded drainage. Diversity usually low; saltbushes and greasewood frequently dominate. This vegetation occurs from Modoc County south to Mexico, including parts of the Great Valley and Inner South Coast Ranges.

Chaparral (37000)

Impenetrably dense, evergreen, leathery-leaved shrubs that are active in winter, dormant in summer, and adapted to frequent fires either through resprouting or seed carry-over. Fire-following annuals and short-lived perennials characteristic. Mature stands may exceed 11 - 13 feet in height. It occurs on diverse substrates, many of which support distinctive suites of edaphic indicators. Chaparral may be successional to conifer forests or oak woodlands, as tree seedlings can be found beneath the shrub canopies.

Coastal Prairie (41000)

Dense, fairly tall (3 feet) perennial sod- and tussock-forming grasses and grass-like herbs. They occur in two distinct settings: sandy marine terraces within the zone of coastal fog (usually 1000 feet elevation, within a matrix of Northern coastal scrub), or on fine-textured soils of ridgetops beyond coastal fogs (usually 2,500 feet, within a matrix of Mixed evergreen or North coastal conifer forests). Intermittent from the Santa Cruz area north to southern Oregon.

Valley and Foothill Grassland (42000)

Introduced, annual Mediterranean grasses and native herbs. On most sites the native species, such as needle grass, have been largely or entirely supplanted by introductions. Stands rich in natives usually found on unusual substrates, such as serpentine or somewhat alkaline soils.

Great Basin Grassland (43000)

Perennial sod-forming and bunch grasses. Presumed to have once been widespread on the Modoc Plateau and northeastern California.

Vernal Pools (44000)

Amphibious environments dominated by annual herbs and grasses adapted to germination and early growth under water. Spring desiccation triggers flowering and fruit set, resulting in colorful concentric bands around the drying pools.

Meadows and Seeps (45000)

More or less dense grasses, sedges, and herbs that thrive, at least seasonally, under moist or saturated conditions. They occur from sea level to forestline and on many different substrates. They may be surrounded by grasslands, forests, or shrublands.

Playas (46000)

Non-vascular plants and sparse, gray shrubs on poorly drained soils with usually high salinity and/or alkalinity, due to evaporation of water from closed basins. Found from the Modoc Plateau to Sonoran Desert and in the San Joaquin Valley.

Pebble or Pavement Plain (48000)

Herb- and grass-dominated openings of low cover, dominated by several cushion-forming plants endemic to dense, clay soils armored by a lag gravel of quartzite pebbles. Many of the dominate taxa are themselves rare plants, found in the San Bernardino Mountains.

Bogs and Fens (51000)

Wetlands, typically occupying sites subirrigated by cold, frequently acidic, water. Plant growth dense and low growing, dominated by perennial herbs or low shrubs. Saturated soils frequently allow substantial accumulation of "peat." From the Klamath Ranges to North Coast Ranges, along the North Coast and in the northern Sierra Nevada.

Marshes and Swamps (52000)

Emergent, somewhat woody herbs adapted to seasonally or permanently saturated soils. These include salt, brackish, alkali, and fresh water marshes, as well as swamps, with their woody dominants, and hydrophytic herbs. Found throughout California.

Riparian Forest (61000)

Broadleaved, winter deciduous trees, forming closed canopies, associated with low- to mid-elevation perennial and intermittent streams. Most stands even-aged, reflecting the flood-mediated, episodic reproduction. These habitats can be found in every county and climate in California.

Riparian Woodland (62000)

Broadleaved, winter deciduous trees with open canopies associated with low- to mid-elevation streams. Most stands even-aged, reflecting the flood-controlled, episodic reproduction. This type tends to occupy more intermittent streams, often cobbly or bouldery bedloads.

Riparian Scrub (63000)

Streamside thickets dominated by one or more willows, as well as by other fast-growing shrubs and vines. Most plants recolonize following flood disturbance.

Cismontaine Woodland (71000)

Trees deciduous, evergreen or both, with open canopies. Broadleaved trees dominate, although conifers may be present in or emergent through the canopy. Understories may be open and herbaceous or closed and shrubby. This type occurs on a variety of sites below the conifer forests in Mediterranean California.

Pinon and Juniper Woodland (72000)

Open stands of round-topped conifers to 16 feet. Understories frequently comprised of shrubs and herbs seen in adjacent stands lacking trees. They often form broad ecotones between higher elevation forests and lower elevation scrublands or grasslands.

Joshua Tree Woodland (73000)

Joshua trees with open canopies are usually the only treelike species present. Shrubstories typically diverse mixtures of small-leaved, evergreen shrubs, semideciduous shrubs, semisucculents, and succulents.

Sonoran Thorn Woodland (75000)

Succulents, small-leaved herbs and shrubs, especially of rocky environments. Tree-like plants the visual dominant.

Broadleaved Upland Forests (81000)

Stands of evergreen or deciduous, broad-leaved trees 16 feet or more tall, forming closed canopies. Many, but not all, with very poorly developed understories. Several are seral to montane conifer forests. It includes the "mixed evergreen forest" of the Coast Ranges.

North Coast Conifer Forest (82000)

Needle-leaved evergreen trees in usually quite dense stands that may attain impressive heights. Usually on well drained, moist sites within the reach of summer fogs, but not experiencing much winter snow. This type occurs in the wetter parts of the North Coast Ranges.

Closed-cone Conifer Forest (83000)

Dense, even-aged stands dominated by conifers with cones which remain on the tree, closed until an environmental trigger, often fire, causes them to open. Most stands are even-aged due to establishment following fire. Usually associated with sterile, rocky soils, strong and steady winds, and impaired drainage. Many open stands have understories composed of chaparral or coastal scrub species from surrounding areas. Found in most areas, except for the Great Valley or deserts.

Lower Montane Conifer Forest (84000)

Open to dense stands of conifers found at lower and middle elevations in the mountains. Broadleaved trees may be present in the understory. Shrubstories may be dense assemblages of chaparral species, especially in seral stands. The upper limit of lower montane coniferous forests more or less coincides with the elevation of maximum annual precipitation.

Upper Montane Conifer Forest (85000)

Open to dense conifer forests, found at high elevations in the mountains. Trees tend to be somewhat shorter than at lower elevations. Shrubstories tend to be open, drawn from adjacent montane chaparral species, or lacking. Above the elevation of maximum precipitation, with growing seasons curtailed by winter snow accumulations.

Subalpine Conifer Forest (86000)

Conifer forests and associated clearings of highest elevations of tree establishment. This type occurs in areas where substantial snowpack accumulation and cold temperatures limit the growing season to three months or less.

Alpine Boulder and Rock Field (91000)

Fell-fields, talus slopes, and meadows found above forest line. Favorable sites may develop continuous turf, but in most areas plants are tucked between large nurse rocks that provide protection from harsh winter conditions.

Alpine Dwarf Scrub (94000)

Compact, woody subshrubs above forest line, adapted to short growing seasons resulting from snow accumulation or harsh winter winds.

[1] Terrestrial section reprinted, following minor revision, with permission from Smith, J. P. and K. Berg (Eds.) 1988. *Inventory of Rare and Endangered Vascular Plants of California.* Special Publication No. 1 (4th Edition), California Native Plant Society, Sacramento, CA 95814.

[2] Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California.* Natural Heritage Program, California Department of Fish and Game, Sacramento, California. 150 p.

[3] Moyle, P. B. and J. P. Ellison (in press). *A Classification System for California's Inland Waters.* California Fish and Game. California Department of Fish and Game, Sacramento, California. (To be published Spring, 1992).

Appendix C

ADOPT–A–SPECIES APPLICATION

Please provide the following information about your school's project to adopt a local threatened or endangered species. Please limit the typewritten narrative response for each question to one page or less, up to a total of nine pages. (See the section on "Adopt A Species" Competition Guidelines.) The application should be completed on 8 1/2" by 11" paper.

SCHOOL INFORMATION

Name of School:

School District:

County:

Principal:

Address of School:

Number of students reached:

Telephone Number:

Number of faculty:

Lead Teacher(s):

Number of community members:

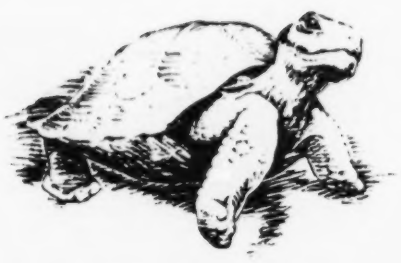
Lead Student(s):

ADOPTED SPECIES INFORMATION

1. What is the name of the species your school adopted?
2. How did your school population decide upon adopting this species?
3. How is the natural habitat of the species threatened?
4. What efforts to preserve the species' habitat were made prior to your school's project?
5. Who has your school contacted to assist with researching your adopted species? (Include individuals, agencies, and groups.)
6. How do the students plan to educate the community about the threats to your adopted species' habitat?
7. How is your school helping to restore or preserve your adopted species' habitat? (Schools who have begun the action part of their project will receive bonus points.)
8. Describe the methods your school uses to keep teachers and students informed about the project's progress.
9. Describe your school's plan for the future protection of your adopted species' habitat.
10. Please include additional information about your project.

BIOSTAT

The following Biostat information sheet has been included for you to copy and give to your students. Have them fill in the Biostat and include it with your completed application (page 115) to enter the Adopt-A-Species Contest. An example of a completed Biostat follows the blank form.



BIOSTAT: Adopted Species

Common Name of Species / Scientific Name

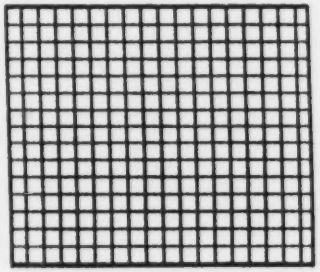
_____ SCHOOL _____

STATUS: _____

Description of your species:

The estimated population of the species in your county now is _____.
Before the species became threatened, the estimated population in your county was _____.
The population of this species has declined by a rate of ____%.

Species Population



Year

Drawing of Your Species

Description of your species' habitat:

Factors that threaten the habitat:

Your school's plan to save the habitat:

Community groups that support your plan:

Lead Teacher _____

Lead Student _____

Principal _____

BIOSTAT: Adopted Species

Common Name of Species / Scientific Name
Giant Kangaroo Rat / Dipodomys Ingens

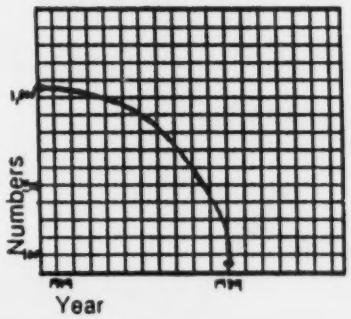
STATUS: Endangered

SCHOOL Kings County Elementary

Description of your species: The Giant Kangaroo Rat is about 5 inches long, with an 8-inch tail. It weighs 131-180 grams. It looks like it has a large head because it has hollow chambers around the bones of its middle ear. Its hearing is sensitive. The Giant Kangaroo Rat uses its long tail to change direction as it leaps into the air on its strong hind legs. It makes its presence known by tapping its foot; each Rat has a unique pattern of foot-tapping that other rats can detect.

The estimated population of the species in your county now is about 40.
Before the species became threatened, the estimated population in your county was about 1,050.
The population of this species has declined by a rate of 97 %.

Species Population



Drawing of Your Species

Description of your species' habitat: The Giant Kangaroo Rat lives in areas of sparse vegetation and little rainfall. Heavy livestock grazing is common.

Factors that threaten the habitat: agricultural expansion, development, floods, pesticides, fires

Your school's plan to save the habitat: We plan to raise money for interpretive panels at the Carrizo Plain Natural Heritage Reserve and participate in public hearings.

Community groups that support your plan:
The Bureau of Land Management
The National Audubon Society, Nature Conservancy

Lead Teacher Mr. Feldman

Lead Student Lisa Hughes

Principal Dr. Emma Kingston

Appendix D

SAMPLE LESSON OUTLINE: TEACHING ABOUT ENDANGERED SPECIES

The steps of adopting a local endangered or threatened species are outlined on pages 13-14 in the *Resource Guide*. Your school can become involved in the California Endangered Species Education Program by following these guidelines.

The following sample outline of lessons offers suggestions to help you get started teaching the topic of endangered species in grades 4-8. Other activities can be found in the books referenced in section "Endangered Species Activities for the Classroom" in the Bibliography.

Please read pages 2-3 in the *Resource Guide* to learn how this program fits into the *Science Framework for California Public Schools* and enhances science education. The California Science Framework is referenced for each suggested lesson and its underlying concepts. There are also sample questions to be considered.

Whenever possible use California animal and plant species as examples in the lessons you teach. You and your students can have the most direct and powerful impact locally by focusing your efforts on learning about and helping to preserve the many species in your county that need help. Listed species in your county are found on pages 27 to 68 in the *Resource Guide*.

When you begin teaching about a new topic, you might begin by assessing students' existing knowledge of the subject. Record their ideas and keep their statements on chart paper for reference as you conduct the lessons. Revist the students' statements as they evolve with a more developed breadth of knowledge, and challenge your students to apply their new understanding to local issues and other responsible action projects.

It is important that educators know about successful activities or lessons about endangered species in California. If you are willing to share those that you create, please outline your activity and send it to:

C. E. S. E. P.
c/o National Audubon Society
376 Greenwood Beach Road
Tiburon, CA 94920

LESSON ONE Grade Level: 4–8

California Science Framework: Reference: C–1, C–2.

Sample Basic Questions:

What do living things need for survival?

What is a habitat?

How are plants and animals interdependent?

Underlying Concepts:

Humans and all living things have similar basic needs and depend on water, oxygen, proper space, nutrients and/or sunlight. Habitat that provides these basic needs is key to the survival of plants and animals as well as humans. All living things in a biotic community are interdependent. A healthy environment contains a diversity of species.

Sample Vocabulary:

ecology, community, food chain, food pyramid, habitat, interdependent, native, diversity

Sample Activity

Help students find or make a list of some native California plant and animal species. Have the students discuss how and why certain plants and animals are interdependent. With your students, compare the diversity of species in California with building a house of cards. How many cards can you remove before the house falls? How many species can be removed before the ecosystem fails? How is one species (card) dependent on the others, and how does it affect the strength and balance of the system (house)? Species are removed (become endangered or extinct) in the natural world when the limiting factors they need for survival – food, water, shelter, and space – are altered through such factors as habitat destruction or pollution. Compare and contrast what students need for their survival in their own habitat to those needed by local species of animal.

Have students draw a picture that identifies the people in their own community that they are dependent upon (parents, doctor, sanitary engineer, grocer, etc.) Have them pick one local native animal and draw a picture that depicts the plants and other animals in its "community" that it depends upon (hawk-snake-deermouse-plants with seeds or fruits.) Discuss the effects on the community if any one of the living organisms were to become extinct.

LESSON TWO Grade Level: 4–8

California Science Framework: Reference: C–3.

Sample Basic Questions:

What is the meaning of "endangered"? "threatened"? "species"?

What California native plants and animals are endangered or threatened?

What makes some plants and animals more at risk with extinction than others?

Underlying Concepts:

Some plants and animals in California are endangered or threatened. (See pages 1–2 in the *Resource Guide* for further information.) There are species in your county whose populations will not survive without human intervention. (See pages 27 to 68 for listings of endangered species in each county.) A species is a group of organisms that share similar characteristics and are able to breed and produce fertile offspring. Certain factors, such as very specific nutrient or habitat requirements or a low reproductive rate, cause some species to be more at risk with extinction than others.

Sample Vocabulary:

adapt, endangered, extinct, threatened, migration, native species.

Sample of Activities:

Explore your students' ideas about threatened and endangered species. Species that are "threatened" or "endangered" share certain characteristics that make them vulnerable to extinction. Some reasons include limited habitat or range, low birth rates, specialized diets, and stress due to migration. Other species are sensitive to interference from human activities.

Have students create imaginary animals and the habitats upon which those animals might depend for survival. Then create factors that would threaten the survival of their imaginary species. Is the species able to adapt? Can it live somewhere else? How might the animal and its habitat be protected? Compare how the created species are similar to actual endangered or threatened animals found in California. Repeat this same exercise using an imaginary plant species. Invent special adaptations such as an ability to retain water, protection from predators, the ability to survive without much light or in harsh rocky environments that would enable the plant to survive in the imaginary habitat .

LESSON THREE Grade Level: 4–8

California Science Framework: Reference: C–3

Sample Question:

How do species become endangered or threatened?

Underlying Concepts:

Human impacts on California native species and their habitat are increasing. The following factors contribute to endangerment: habitat destruction and overpopulation, commercial exploitation, competition with introduced (exotic) species, pollution, pesticides and poisoning. (See pages 5–7 of the *Resource Guide* for further information.)

Sample Vocabulary:

adaptation, limiting factor, pesticide, pollution, migration.

Sample Activity:

Ask the students to list how they think a species becomes endangered, threatened, or extinct. Design an outdoor simulation in which students imitate the life cycle of a migrating species, such as a brown pelican (other examples might include ducks, shorebirds, songbirds, whales, sea turtles or salmon). Delineate the animal's needs for survival in its various habitats. Hurdles could be the limiting factors (i.e. food supply and water availability) in the animal's habitat (including the human pressures listed above) that cause survival problems. Students can simulate migration attempting to overcome the "hurdles" to "survive" and find a mate. For example, the brown pelican migrates from the west coast of California to Mexico. Human-caused or natural factors that impinge upon the pelican's survival could include concentration of toxics in body tissues causing soft egg shells, entanglement in fishing nets and hooks, ingestion of bits of plastic trash, illegal shooting, competition with fisherman for food source, collisions with power poles and wires, human disturbance of habitat, storms, fluctuations in the availability of food, and predation of young.

Creating simulations provides students an opportunity to experience the factors that lead to extinction of species. Discuss the factors necessary for survival and what might be done to protect the species. Have students generate and incorporate protection measures into the simulation exercise. Did these measures increase the species' chances for survival? If so, how? Discuss actions the students may take to help with the survival of a local threatened or endangered species.

LESSON FOUR Grade Level: 4–8

California Science Framework: Reference: C–3.

Sample Basic Questions:

What steps are being taken to protect endangered and threatened animals and plants?

Underlying Concepts:

California and federal laws protect native animals and plants that are endangered and threatened. (See page 7 of the *Resource Guide* for additional information about legal protection.)

Sample Vocabulary:

laws

Sample Activity:

List what the students think is being done to help protect threatened or endangered species. Conduct a role play where students act as government officials responsible for allocation of funds to protect endangered species. If the money allocated for protection is limited, how will they decide which species receive(s) funding? Certain endangered or threatened species are better known and receive more attention than others. Discuss how myths and stereotypes might affect people's impressions of insects, reptiles, fish, and mammals such as bats and wolves. Explore the ecological niches of species of plants (such as the Sonoma spine flower) and insects (such as the Valley elderberry longhorn beetle) that are obscure or not so "cuddly" or appealing .

Discuss how people's attitudes affect species preservation. What would happen to an ecosystem if all the "unappealing" plants or insects were not protected or were removed? Include in your discussion the difficulty of such management decisions and the importance of maintaining a diversity of species for the balance and health of natural ecosystems including humans. Have the students decide what form of protective action they could take to help preserve a local endangered or threatened species, such as adopting an endangered species or picking up litter in a habitat.

LESSON FIVE Grade Level: 4–8

California Science Framework: Reference: C-4.

Sample Questions:

Why should we care if species go extinct?

What can we do to help species in trouble?

Underlying Concepts:

Humans have far greater ability to alter or adjust to environments than do other animals and plants. Thus, humans have a responsibility to consider the effects of their actions on other life forms. Native plants and animals have aesthetic, ecological, scientific, social, economic, educational, ethical, medicinal, recreational, and intrinsic values. (See pages 10 and 11 in *Resource Guide* for more detailed information.) Habitat protection and management is often the best way to help a threatened or endangered species. Management is based on both biological and social/political considerations.

Sample Vocabulary:

conservation, restoration, wildlife or resource management

Sample Activity:

Do your students think that currently endangered species should be protected? Why? Invite a local resource manager or wildlife biologist to your classroom for an informative interview on endangered species restoration plans and projects. Have students research well-known species conservation efforts, such as preservation of peregrine falcons, grey whales, California condors or dolphin caught in the tuna fishing nets. Stress that people can be the cause as well as the solution to problems affecting threatened or endangered species.

Assign students to investigate local grocery stores and determine which brands of tuna claim to be "dolphin safe". Conduct research to determine just what "dolphin safe" means. Is there proof that dolphin are no longer being killed by tuna fishing, or is this just a facade to placate consumers?

Have students play the roles of individual tuna fishers, large tuna companies operating factory trawlers, and members of dolphin conservation organizations, to provide perspective and insight into the needs, values, and economics of consumerism and preservation. What would the world be like without dolphins? What would the world be like without tuna to eat? Are there ways that both dolphins and the tuna industry can coexist? Students might write to the "dolphin safe" brand tuna companies to express their opinions. Letters can also be sent to other businesses that are making an attempt at improving practices that have been harmful to some species of wildlife.

Appendix E

SENATE BILL NO. 885

CHAPTER 1302

An act to add and repeal Article 5 (commencing with Section 52760) to Chapter 11 of Part 28 of the Education Code, relating to education.

Approved by Governor October 1, 1989. Filed with
Secretary of State October 1, 1989.

SB 885, Hart. Endangered Species Education Project of 1989. Existing law requires the Fish and Game Commission to establish and maintain a list of endangered bird, mammal, fish, amphibian, reptile, and plant species for purposes of import, export, and related prohibitions.

This bill would establish the Endangered Species Act of 1989, consisting of a statewide competition in which each public elementary and junior high school in the state would be encouraged to adopt an endangered species from its local, to design projects to educate the community about threats to the endangered species, and to develop a plan for local community action to preserve the species' habitat. The Superintendent of Public Instruction would be required to administer the project, as specified. The bill provides that operation of the act is subject to availability of local assistance funds appropriated in the annual budget acts for existing environmental education programs, and that the provisions of the act shall become inoperative on June 30, 1995, and be repealed as of January 1, 1996.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The quality of human life depends on maintaining a balanced interdependent ecosystem.
(b) Endangered species of plants and animals are becoming extinct faster than can be documented, at the estimated rate of one per day.
(c) If this trend continues into the next decade, many scientists warn that the rate of extinction may increase to one species per hour.
(d) It is important for citizens to be aware of the interdependence of all species and to work to avert further deterioration of these natural systems, thereby preserving the quality of life for this and future generations.

SECTION 2. The Legislature further finds and declares as follows:

(a) The most recent survey of the science knowledge of 9-, 13-, and 17-year olds conducted by the National Assessment of Education Progress concluded the following:
  (1) Only 9 percent of 13-year olds and 41 percent of 17-year olds have the ability to analyze scientific procedures and information and to apply what they know to real life situations.
  (2) By grade 11, almost half of the students decide not to take any more science courses, few spend time on science-related hobbies, and only about half believe that what they learn in science classes is useful in their everyday lives.
  (3) Seventh and eleventh grade students who actively participate in challenging science activities are more likely to have a higher science proficiency than those who did not.
(b) Schools should provide students with "real world" experiences to increase their understanding of science, to develop critical thinking skills, and to engage them in addressing community and societal problems.
(c) Studying endangered species, particularly those in the local community, and developing strategies to protect those species gives students opportunities to acquire and apply scientific knowledge in ways that enrich local communities.

SECTION 3. Article 5 (commencing with Section 52760) is added to Chapter 11 of Part 28 of the Education Code, to read:

(Continued on next page)

Article 5. The Endangered Species Education Project of 1989

52760. The Endangered Species Education Project of 1989 is hereby established to provide pupils in kindergarten and grades 1 to 8, inclusive, with opportunities to increase their understanding of science and their knowledge of the interdependence of living things, through the study of endangered species in local habitats. This project shall be administered by the Superintendent of Public Instruction and shall consist of a statewide competition in which each public elementary and junior high school in California is encouraged to (1) adopt one endangered species, as selected pursuant to Section 52761, from its locale; (2) design projects to educate its community about the threats to the adopted endangered species; and (3) develop a plan for local community action to preserve the adopted species' habitats. Exemplary projects shall be selected for special recognition by a panel of pupils pursuant to subdivision (b) of Section 52762.

52761. Each elementary or junior high school participating in the project shall submit to the superintendent a proposal to adopt one endangered species from the list established pursuant to Section 2070 of the Fish and Game Code. To the extent feasible, each school shall select a species based on the close proximity of the species, the feasibility of studying it, and the course of action that might occur to preserve it.

Each proposal shall include, but need not be limited to, the following:

(a) A description of the endangered species and the reasons the pupils selected that species.

(b) A description of strategies that the pupils plan to use to educate other pupils and members of the community regarding the threat to the adopted species. Strategies may include, but need not be limited to, exhibits, art work, media campaigns, oral presentations, drama, and writing projects.

(c) An action plan designed to monitor and promote the preservation of the adopted species and its habitat.

Pupils are encouraged to use appropriate local and state resources, including science faculty and students in postsecondary education institutions, to obtain information to assist them in the selection of their species and the development of their proposal.

52762. The Superintendent of Public Instruction shall do all of the following:

(a) Develop and distribute, to each school district and county office of education that operates an elementary or junior high school, the forms and guidelines necessary to submit a proposal as described in Section 52761. The guidelines shall include, but need not be limited to, the list of endangered species established pursuant to Section 2070 of the Fish and Game Code, local and state resources that may be of assistance to participating pupils, and the criteria that will be used to select exemplary proposals for special recognition.

(b) Establish a panel of elementary school pupils to review and select exemplary proposals submitted by pupils from elementary schools and a panel of junior high school pupils to review and select exemplary proposals submitted by pupils from junior high schools. Each panel shall represent the geographical, racial, ethnic, gender, and socioeconomic diversity of the pupil population of this state.

(c) Develop and distribute certificates of commendation for pupil panel members; certificates of recognition for all schools that submit a proposal, and certificates of commendation for proposals that are selected as exemplary at each level. To the extent feasible, the superintendent shall, in addition, issue a press release to publicize the competition, make the exemplary proposals available for distribution to other public schools, and disseminate information about the Endangered Species Education Project of 1989 to appropriate science or environmental education organizations and publications.

52763. Operation of this article shall be subject to availability of funds from within local assistance appropriated in the annual budget acts for existing environmental education programs pursuant to Chapter 4 (commencing with Section 8700) of Part 6 of the Education Code.

52764. This article shall become inoperative on June 30, 1995, and, as of January 1, 1996, is repealed, unless a later enacted statute, which becomes effective on or before January 1, 1996, deletes or extends the dates on which it becomes inoperative and is repealed.

Appendix F

Endangered Species Education Program — Participation Response Form

IMPORTANT: Whether or not you chose to enter the "Adopt a Species" competition please take time to return the form found below. It is important to have a record of participation throughout the State. Your providing the following information is appreciated and of great help to the success of the program.

Name of School _____ Phone # _____

School Address _____ City _____ Zip _____

Lead Teacher's Name _____

What species was adopted? _____

Has or will your school submit an application to the statewide "Adopted a Species" competition? ____

If not, why? _____

_____

Number of students involved in process? _____

Number of faculty involved? _____

Number of parents involved? _____

About how much classroom time was spent on this project? _____ hours (or days, weeks, or months).

How was the community educated and involved? _____

_____

Do you have any slides, photos, or video footage that might be used for educational displays or publica

tions that illustrate student participation in the program? _____

_____

_____

Thank you for your help!

**** To mail just fold this sheet in thirds, staple, and stamp with address showing.***

***** Return this completed form to receive a Certificate of Participation in the California Endangered Species Education Program.***

Fold Here

From: _____

_____

_____

To: Calif. Endangered Species Ed. Program
c/o National Audubon Society
376 Greenwood Beach Rd.
Tiburon, CA 94920

Fold Here